

2015
2016



MEASURING INSTRUMENTS

CATALOG NO. 301



QUALITY | INNOVATION | SERVICE | VALUE



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DIAL DEPTH GAGE



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INTERNAL AND EXTERNAL DIAMETER MEASUREMENT PAGE 72-95



THREE POINTS INTERNAL MICROMETER



ELECTRONIC THREE POINTS INTERNAL MICROMETER



INSIDE MICROMETER



TUBULAR INSIDE MICROMETER



TUBULAR INSIDE MICROMETER



SPLIT TYPE DIAL BORE GAGE



BORE GAGE



BORE GAGE SETTER



SETTING RING



TELESCOPING GAGE SET



ELECTRONIC RADIUS GAGE

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ELECTRONIC CALIPER



DIAL CALIPER



VERNIER CALIPER



LARGE RANGE CALIPER



SPECIAL PURPOSE CALIPER

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MICROMETER PAGE 44-71



ELECTRONIC OUTSIDE MICROMETER



OUTSIDE MICROMETER WITH COUNTER



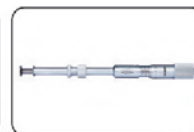
OUTSIDE MICROMETER



LARGE RANGE MICROMETER



INDICATING MICROMETER



GROOVE MICROMETER



SPECIAL PURPOSE MICROMETER



MICROMETER STAND



MICROMETER HEAD

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ELECTRONIC INDICATOR



DIAL INDICATOR



POINTS



DIAL TEST INDICATOR



DIAL TEST INDICATOR HOLDER



MAGNETIC STAND



DIAL GAGE STAND



CONCENTRICITY GAGE



BENCH CENTER

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INTERNAL/EXTERNAL CALIPER GAGE



ELECTRONIC THICKNESS GAGE



THICKNESS GAGE



DIAL SNAP GAGE



ADJUSTABLE SNAP GAGE



DIAL SNAP GAGE



ELECTRONIC SNAP GAGE



ELECTRONIC 3-PURPOSE SNAP GAGE



STEP AND GAP GAGE

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GAGE BLOCKS



CYLINDER GAGE BLOCK



GAGE BLOCK ACCESSORY



CHECK MASTER



ANGLE GAGE BLOCK



PIN GAGE HANDLE



THREAD PLUG GAGE



THREAD RING GAGE

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ELECTRONIC PROTRACTOR



PROTRACTOR



PROTRACTOR



PROTRACTOR



UNIVERSAL PROTRACTOR



ELECTRONIC PROTRACTOR



COMBINATION SQUARE SET



GRANITE SQUARE



CYLINDER SQUARE



PERPENDICULARITY TESTER



SQUARE



45° SQUARE



STRAIGHT EDGE



GRANITE STRAIGHT EDGE



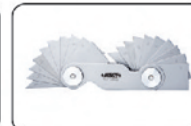
PRECISION STRAIGHT EDGE

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PITCH GAGE



ANGLE GAGE



RADIUS GAGE



FEELER GAGE



TAPER GAGE



WELDING GAGE



FILLET WELD GAGE



WELDING GAGE



PIPE WELDING GAGE



WIRE GAGE



DRILL ANGLE GAGE



INSIDE/OUTSIDE CALIPER



DIVIDER



STEEL RULE



SCRIBER CALIPER



HEIGHT SCRIBER



SCRIBER



PIN PUNCH

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GRANITE SURFACE PLATE



STAND FOR GRANITE SURFACE PLATE



JACK SET FOR GRANITE SURFACE PLATE



MAGNETIC RECTANGULAR BLOCKS



V-BLOCK SET



ROLLER BEARING V-BLOCK SET



MAGNETIC V-BLOCK



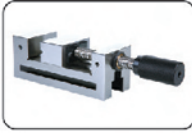
ANGLE PLATE SET



ADJUSTABLE ANGLE BLOCK



RIGHT ANGLE PLATE



PRECISION VISE



PRECISION UNIVERSAL VISE



3D TESTER



CENTERING INDICATOR



ZERO SETTER

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PROFILE PROJECTOR PAGE 202-209



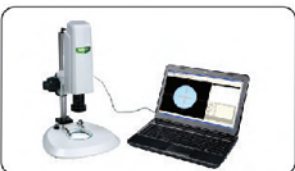
PROFILE PROJECTOR



HORIZONTAL PROFILE PROJECTOR

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VISION MEASURING SYSTEM

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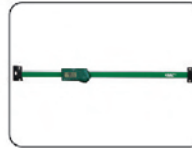
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MEASURING TOOL SET

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SCALE PAGE 197-201



ELECTRONIC SCALE



LINEAR SCALE



COUNTER

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MICROSCOPE PAGE 212-224



DIGITAL MEASURING MICROSCOPE



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ROUGHNESS TESTER



ROUGHNESS TESTER



SURFACE ROUGHNESS SPECIMEN SET

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COATING THICKNESS GAGE



ULTRASONIC THICKNESS GAGE



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21 LEVEL PAGE 263-267



ELECTRONIC LEVEL



ELECTRONIC LEVEL AND PROTRACTOR



ELECTRONIC LEVEL AND PROTRACTOR



FRAME LEVEL



BLOCK LEVEL



ELECTRONIC LEVEL



ALUMINUM ALLOY LEVEL

23 HARDNESS TESTER PAGE 269-293



ROCKWELL HARDNESS TESTER



BRINELL/ROCKWELL/VICKERS HARDNESS TESTER



DIGITAL VICKERS HARDNESS TESTER



VICKERS HARDNESS MEASURING SYSTEM



PORTABLE LEEB HARDNESS TESTER



MAGNETIC ROCKWELL HARDNESS TESTER



PORTABLE ROCKWELL HARDNESS TESTER



HYDRAULIC BRINELL HARDNESS TESTER



WEBSTER HARDNESS TESTER



BARCOL HARDNESS TESTER



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HIGH PRECISION LINEAR GAGE AND DISPLAY UNIT

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DIGITAL FORCE GAGE



TESTING STAND

25 TORQUE TESTER TORQUE WRENCH PAGE 297-306



DIGITAL BOTTLE CAP TORQUE TESTER



DIGITAL TORQUE TESTER



TORQUE WRENCH TESTING STAND



DIGITAL TORQUE SCREWDRIVER



DIGITAL TORQUE WRENCH

APPLICABLE FOR
OTHER BRANDS




WIRELESS DATA TRANSFER SYSTEM



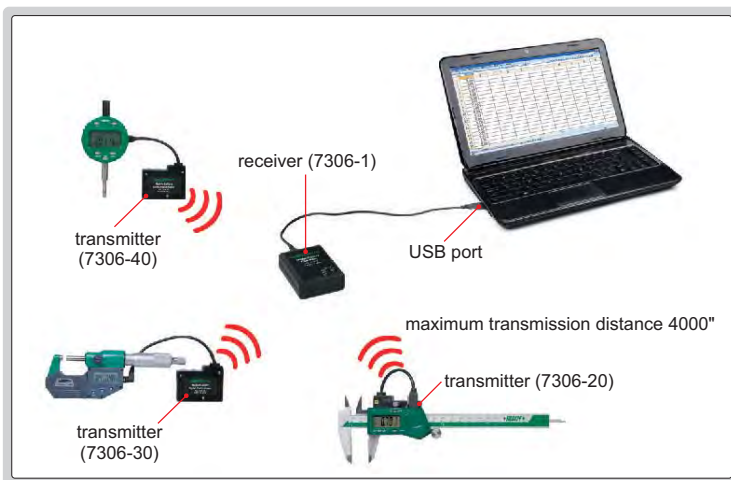
receiver
7306-1



transmitter
7306-20

Part No.	Description	Applicable products
7306-1	receiver (with USB cable)	
7306-20	transmitter module	 electronic calipers and electronic depth gages
7306-30	transmitter module	 electronic micrometers (except 3108 and 3109)
7306-40	transmitter module	 electronic indicators electronic protractor

■ **CONNECTION:** one receiver can be connected to multi transmitters.



■ **DATA COLLECTION:**

- 1) Single collection: press the read button once to collect the reading from measuring tool once.
- 2) Multi collection: press the read button once to start collecting readings from measuring tools continuously, press the button again to stop collecting. Total collection times and interval time can be adjustable.



■ **DISPLAY:** data can be input to Excel as keyboard signal.

measuring tools code A, B, C

	A	B	C	D	E	F	G
1	10.88-A						
2	5.963-B						
3	50.03-C						
4	25.48-D						
5	50.05-C						
6	10.89-A						
7	25.50-D						
8	5.965-B						
9	10.87-A						
10	50.04-C						
11	25.05-D						
12	50.03-C						
13	5.963-B						
14	50.05-C						
15							
16							

All data are displayed in the same column.
Each measuring tool can be coded
such as A, B, C, etc.

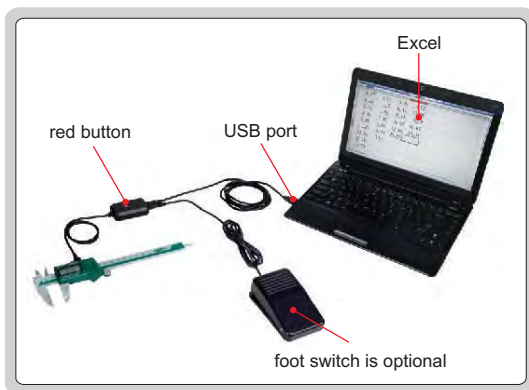
DATA OUTPUT CABLE









- Connect to USB port of computer
- Without software, data can be input as keyboard signal to Excel, Word, etc.
- Press the red button or foot switch (optional) to input data



7304-2



Part No.	Description	Remark
7302-SPC1A	cable (length 100")	 for electronic calipers and electronic depth gages
7302-SPC1B	cable (length 100")	 for electronic calipers and electronic depth gages
7302-SPC2A	cable (length 100")	 for electronic micrometers (except 3108 and 3109)
7302-SPC3A	cable (length 100")	 for electronic indicators  electronic protractor
7302-SPC4	cable (length 100")	 for electronic calipers 1103 series
7304-2	foot switch with cable (length 60")	optional

RS232 DATA OUTPUT CABLE



7305-SPC1A



USB power port

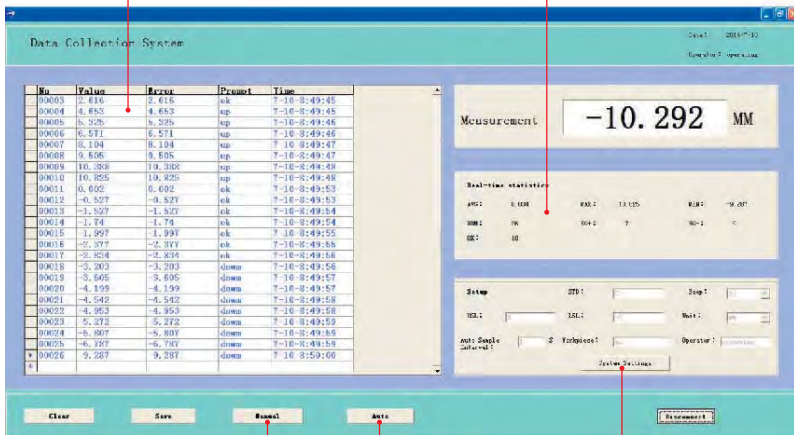
7305-SPC3

automatic judgment by setting tolerance

test result display (maximum value, minimum value, total quantity of workpiece, quantity of passed and not passed, quantity of exceed upper tolerance and exceed lower tolerance)



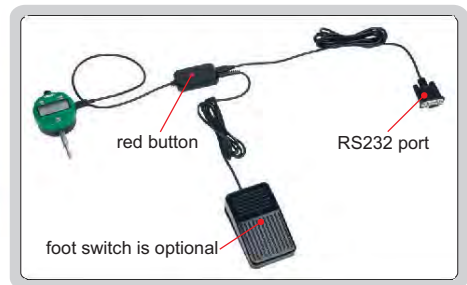
foot switch (optional)
7304-2



manual sampling

automatic sampling

set auto sample interval and tolerance



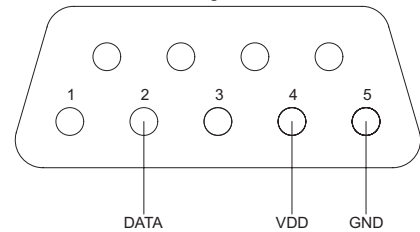
red button

RS232 port

foot switch is optional

- Manual sampling and automatic sampling
- Press manual sampling button in software or red button on cable or foot switch once to collect the reading from measuring tool once
- Can be used in Windows Hyperterminal
- Supplied with software
- Voltage required: 5-10V
- Cable length 100"
- Optional accessory: foot switch (part no. 7304-2, cable length 60")

Signal



Part No.	Applicable products		
7305-SPC1A			electronic indicators
7305-SPC2			electronic calipers and electronic depth gages
7305-SPC3			electronic micrometers (except 3108 and 3109)
7304-2	foot switch with cable (length 60")		

ATTENTION:
NO DATA OUTPUT

IP67
WATERPROOF

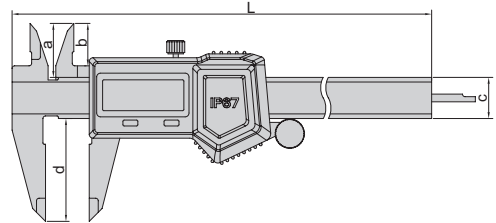
ATTENTION: IT IS NECESSARY TO
SET ZERO AFTER POWER ON EACH TIME

- IP67 dust/waterproof
- Resolution: .0005"/0.01mm
- Button function: zero, on/off, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel

ELECTRONIC WATERPROOF CALIPER



1118-150B



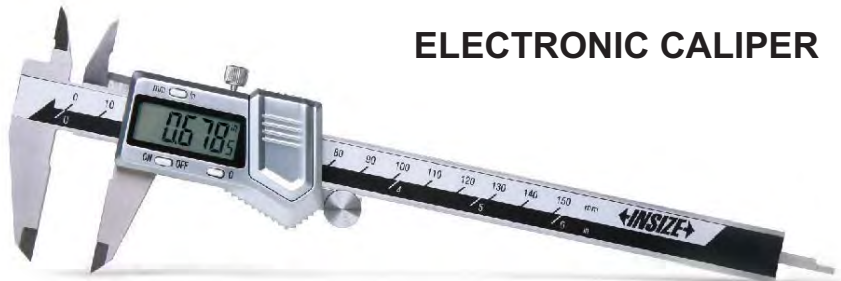
Part No.	Range	Accuracy	L	a	b	c	d
1118-150B*	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1118-200B*	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1118-300B*	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"

* Supplied with manufacturer inspection certificate traceable to NIST

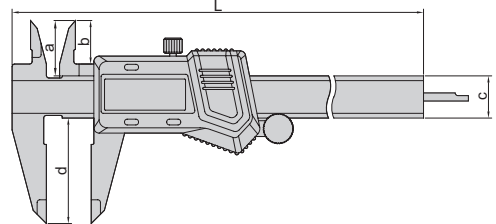
ATTENTION:
NO DATA OUTPUT

- Zinc alloy house for electronic unit
- Resolution: .0005"/0.01mm
- Buttons: zero, on/off, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

ELECTRONIC CALIPER



1114-150A



Part No.	Range	Accuracy	L	a	b	c	d
1114-150A*	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1114-200A*	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1114-300A*	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"

* Supplied with manufacturer inspection certificate traceable to NIST

Measuring Length		Permissible Error	Error		Measuring Length		Permissible Error	Error	
			External	Internal				External	Internal
0.4 DIA		+0.0005 -0.0010	/	0.0005	Φ10		+0.01 -0.02	/	0.01
2	±0.0010	-0.0005	/	/	50	±0.02	-0.01	/	/
4		-0.0005	/	/	100		-0.01	/	/
6		-0.0010	/	/	150		-0.02	/	/
8		/	/	/	200		/	/	/
10	±0.0015	/	/	/	250	±0.03	/	/	/
12		/	/	/	300		/	/	/

**MANUFACTURER INSPECTION
CERTIFICATE TRACEABLE
TO NIST, FOR CALIPERS**

ELECTRONIC CALIPER



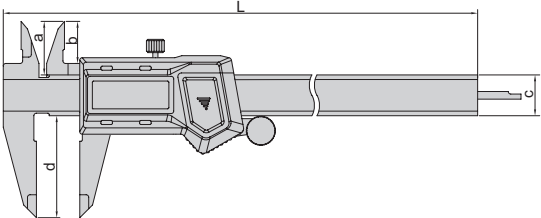
HIGH
PRECISION

ABSOLUTE
SYSTEM

DATA
OUTPUT

1103-150

- Absolute system
- Resolution: .0005"/0.01mm
- Buttons: inch/mm, ABS/REL, on/off, origin set
- Battery CR2032, automatic power off
- After automatic power off, move the digital unit to turn on power
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7302-SPC4)



Part No.	Range	Accuracy	L	a	b	c	d
1103-150*	0-6"/0-150mm	±.0008"	9.213"	.827"	.650"	.630"	1.575"
1103-200*	0-8"/0-200mm	±.0008"	11.260"	.945"	.748"	.630"	1.969"
1103-300*	0-12"/0-300mm	±.0012"	15.354"	1.024"	.846"	.630"	2.362"

* Supplied with manufacturer inspection certificate traceable to NIST

ELECTRONIC CALIPER



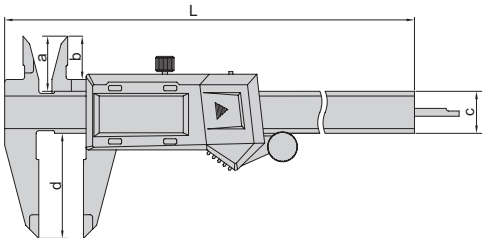
DATA
OUTPUT



fraction reading

1102-150

- Resolution: 0.01mm, .0005", 1/128"
- Buttons: unit (mm/in/fraction), ABS, on/off, zero
- Absolute and incremental measurement
- Battery CR2032, automatic power off
- Data output
- Made of stainless steel



Part No.	Range	Accuracy	L	a	b	c	d
1102-150*	0-6"/0-150mm	±.0012"	9.213"	.827"	.650"	.630"	1.575"
1102-200*	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1102-300*	0-12"/0-300mm	±.0012"	15.354"	1.024"	.846"	.630"	2.362"

* Supplied with manufacturer inspection certificate traceable to NIST

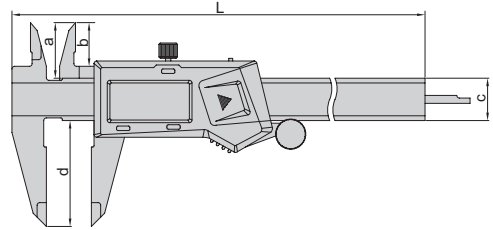
ELECTRONIC CALIPER

DATA OUTPUT



1108-150

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	c	d
1108-150 *	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1108-200 *	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1108-300 *	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"

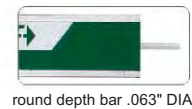
* Supplied with manufacturer inspection certificate traceable to NIST

ELECTRONIC CALIPER WITH ROUND DEPTH BAR

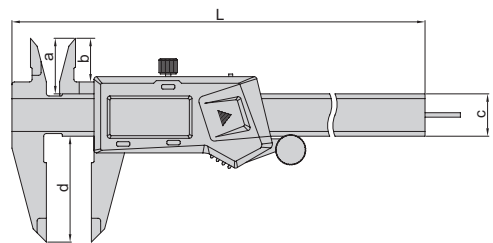
DATA OUTPUT



1119-150



- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	c	d
1119-150 *	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"

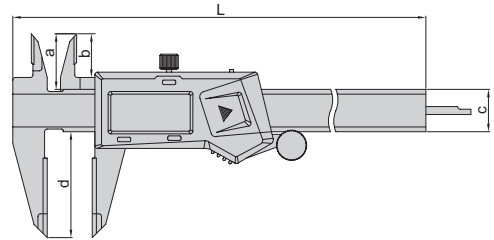
* Supplied with manufacturer inspection certificate traceable to NIST

ELECTRONIC CALIPER WITH CARBIDE TIPPED JAWS



1110-150A

- Carbide tipped jaws for inside and outside measurements
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	c	d
1110-150A*	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1110-200A*	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1110-300A*	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"

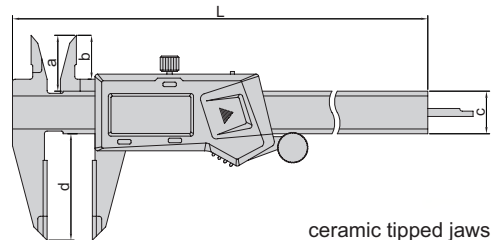
* Supplied with manufacturer inspection certificate traceable to NIST

ELECTRONIC CALIPER WITH CERAMIC TIPPED JAWS



1193-150

- Ceramic tipped jaws for outside measurement, extremely wear-resistant, non-magnetic, non-conductive
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output, made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



ceramic tipped jaws

Part No.	Range	Accuracy	L	a	b	c	d
1193-150*	0-6"/0-150mm	±.0012"	9.252"	.827"	.650"	.630"	1.575"
1193-200*	0-8"/0-200mm	±.0012"	11.693"	.945"	.787"	.630"	1.969"
1193-300*	0-12"/0-300mm	±.0012"	15.354"	1.024"	.846"	.630"	2.362"

* Supplied with manufacturer inspection certificate traceable to NIST



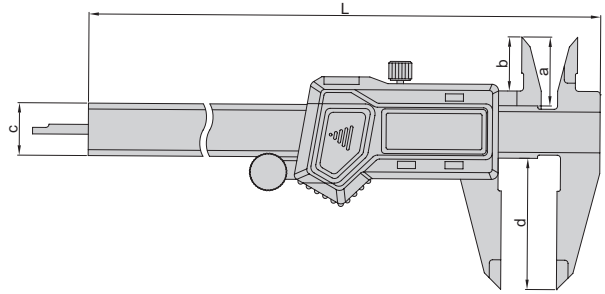
ELECTRONIC LEFT HAND CALIPER

DATA OUTPUT



1130-150

- Designed for left handers
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	c	d
1130-150*	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1130-200*	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1130-300*	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"

* Supplied with manufacturer inspection certificate traceable to NIST

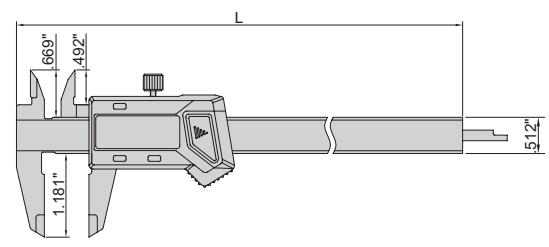
MINI ELECTRONIC CALIPER

ATTENTION: NO DATA OUTPUT



1111-100A

- Resolution: .0005"/0.01mm
- Buttons: zero, inch/mm, on/off
- Automatic power off, move the digital unit to turn on power
- Battery SR44 or LR44
- Made of stainless steel



Part No.	Range	Accuracy	L
1111-75A	0-3"/0-75mm	±.0008"	5.669"
1111-100A	0-4"/0-100mm	±.0008"	6.693"

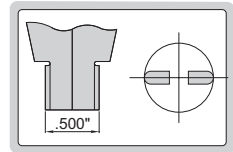
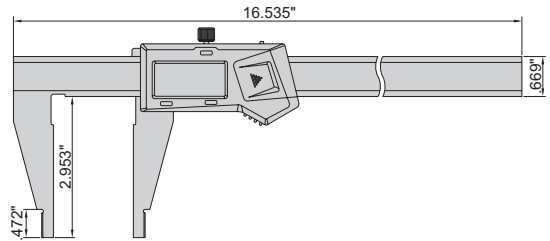
DATA
OUTPUT

ELECTRONIC CALIPER



1522-127

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy
1522-127	0-12"/0-300mm	±.0016"

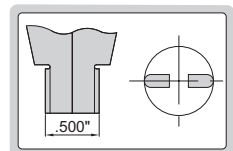
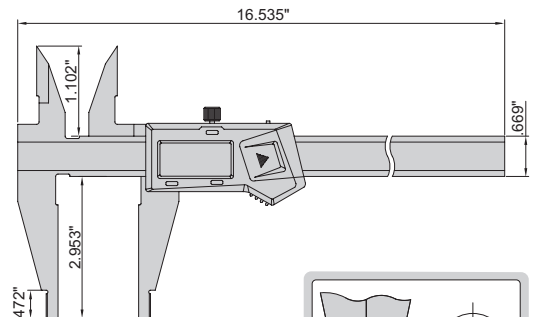
DATA
OUTPUT

ELECTRONIC CALIPER



1523-127

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy
1523-127	0-12"/0-300mm	±.0016"

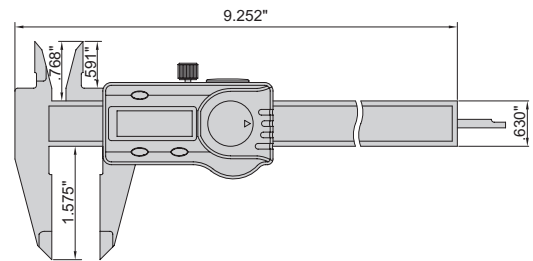
ELECTRONIC PLASTIC CALIPER

ATTENTION:
NO DATA OUTPUT



1139-150

- Made of hard plastic, non-magnetic and non-conductive
- Prevent workpieces from scratching by calipers
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Battery CR2032, automatic power off



Part No.	Range	Accuracy
1139-150	0-6"/0-150mm	±.004"

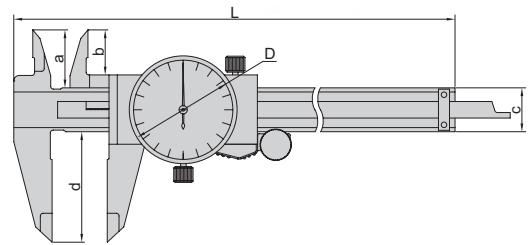
DIAL CALIPER

SHOCK
PROOF



1311-6

- Shockproof dial indicator
- Made of stainless steel



Dial indicator graduation .001"

Part No.	Range	Accuracy	L	a	b	c	d	D
1311-6*	0-6"	±.0015"	9.252"	.827"	.650"	.630"	1.575"	1.535" DIA
1311-8*	0-8"	±.0020"	11.339"	.945"	.748"	.630"	1.890"	1.535" DIA
1311-12*	0-12"	±.0020"	16.142"	1.102"	.866"	.787"	2.441"	1.752" DIA

Dial indicator graduation 0.01mm

Part No.	Range	Accuracy	L	a	b	c	d	D
1311-150A*	0-150mm	±0.03mm	235mm	21mm	16.5mm	16mm	40mm	Ø39mm
1311-200A*	0-200mm	±0.03mm	288mm	24mm	19mm	16mm	48mm	Ø39mm
1311-300A*	0-300mm	±0.04mm	410mm	28mm	22mm	20mm	62mm	Ø44.5mm

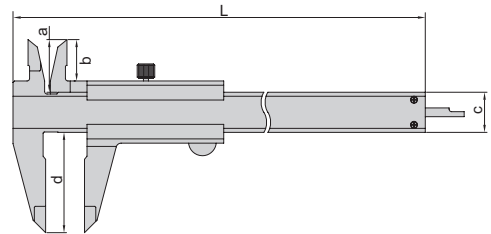
* Supplied with manufacturer inspection certificate traceable to NIST

VERNIER CALIPER



1205-1502E

- Graduation: .001"/0.02mm
- Made of stainless steel
- Satin chrome plated reading surface

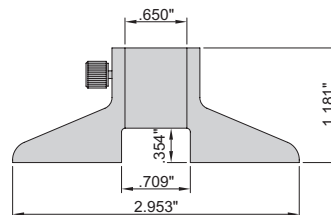


Part No.	Range	Accuracy	L	a	b	c	d
1205-1502E	0-6"/0-150mm	±.0012"	9.252"	.807"	.610"	.630"	1.575"
1205-2002E	0-8"/0-200mm	±.0012"	11.417"	.925"	.748"	.630"	1.969"
1205-3002E	0-12"/0-300mm	±.0012"	16.299"	1.083"	.866"	.787"	2.520"

DEPTH BASE ATTACHMENT



6140



Part No.

6140

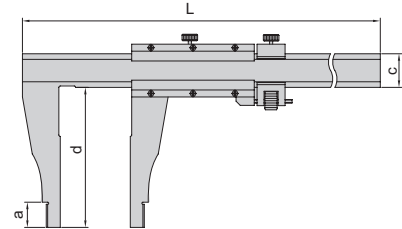
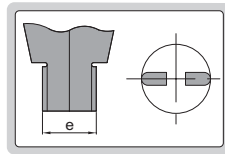
- To increase the stability of depth measurement
- Suitable for 0-6" and 0-8" of vernier calipers, electronic calipers and dial calipers with beam width of .630"
- Made of stainless steel

VERNIER CALIPER



1211-24

- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



Part No.	Range	Graduation	Accuracy	Graduation on Scale	a	c	d	e	L
1211-12	0-12"	.001"	±.002"	inch on bottom and top	.394"	.787"	2.953"	.500"	16.142"
1211-24	0-24"/0-600mm	.001"/0.02mm	±.002"	inch on bottom, metric on top	.709"	.945"	3.937"	.800"	30.315"
1211-40	0-40"/0-1000mm	.001"/0.02mm	±.0031"	inch on bottom, metric on top	.945"	1.26"	5.512"	.800"	47.874"

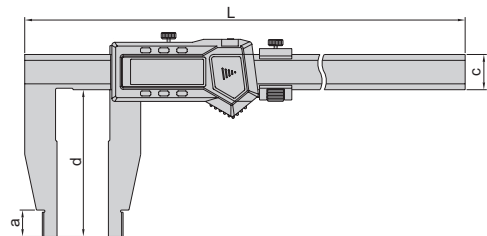
ELECTRONIC CALIPER

DATA
OUTPUT

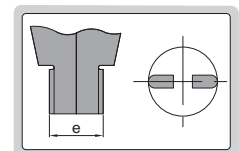


1131-24

- Resolution: .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	a	c	d	e	L
1131-24	0-24"/0-600mm	±.0020"	.709"	.945"	3.937"	.800"	30.315"
1131-40	0-40"/0-1000mm	±.0031"	.945"	1.220"	5.906"	.800"	48.031"
1131-60	0-60"/0-1500mm	±.0043"	.945"	1.654"	5.906"	.800"	70.079"
1131-80	0-80"/0-2000mm	±.0055"	.945"	1.654"	5.906"	.800"	90.157"



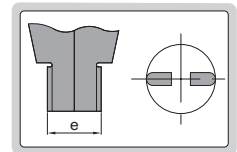
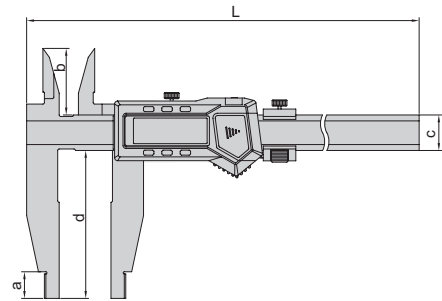
ELECTRONIC CALIPER

DATA
OUTPUT



1133-24

- Resolution: .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	a	b	c	d	e	L
1133-24	0-24"/0-600mm	±.0020"	.709"	1.772"	.945"	3.937"	.800"	30.315"
1133-40	0-40"/0-1000mm	±.0031"	.945"	2.362"	1.220"	5.906"	.800"	48.031"

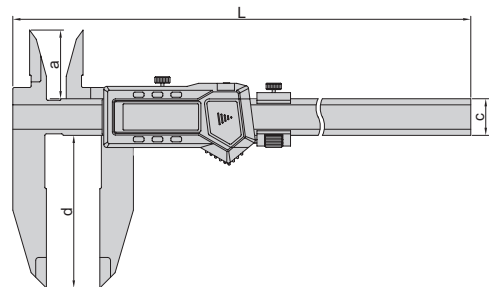
ELECTRONIC CALIPER

DATA
OUTPUT



1135-601

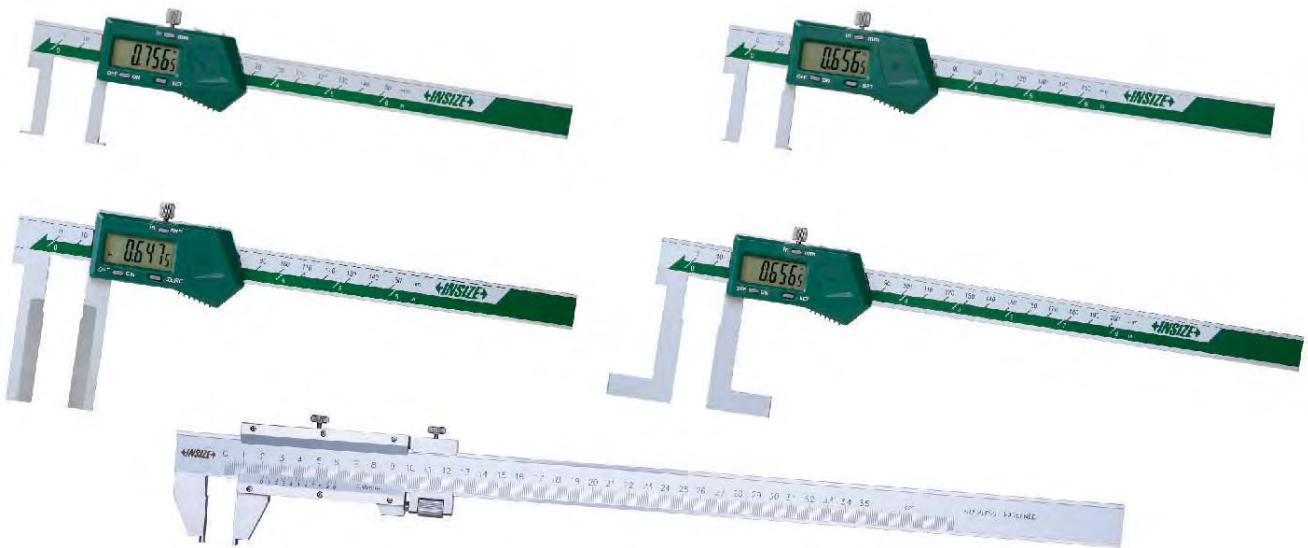
- Resolution: .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	a	c	d	L
1135-451	0-18"/0-450mm	±.0020"	1.772"	.945"	3.937"	24.606"
1135-601	0-24"/0-600mm	±.0020"	1.772"	.945"	3.937"	30.315"
1135-1002	0-40"/0-1000mm	±.0031"	2.362"	1.220"	5.906"	48.031"

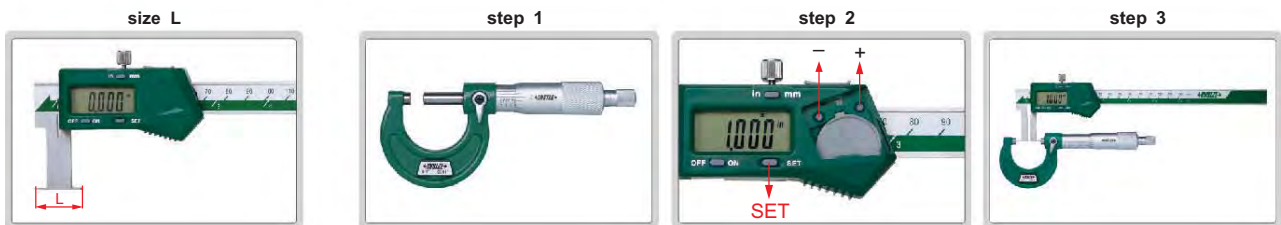
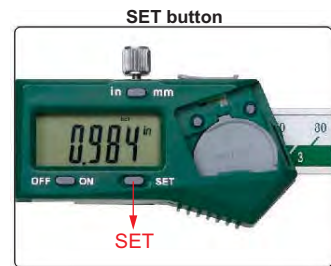
CUSTOM-MADE CALIPER

- We are able to make calipers according to the design from customers

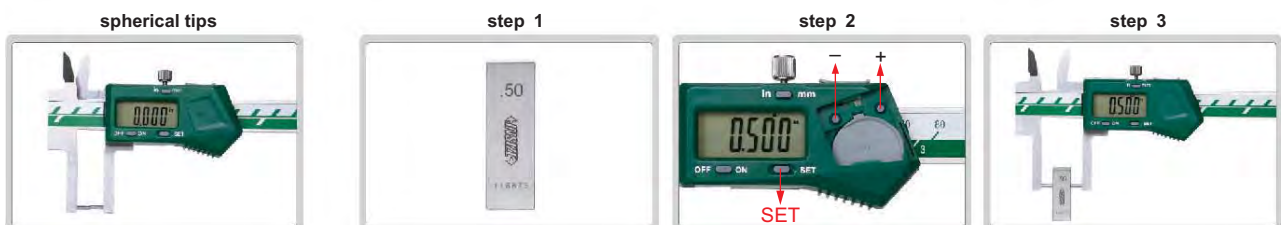


SET BUTTON

- In some calipers, there is a "SET" button. It is possible to set a initial reading (instead of zero) on these calipers.
- For internal measurement, if the size L is unknown, it is necessary to set. After setting, you can get a direct reading, without adding L.
 - Step 1: Find a micrometer, set it at a number (for example, 1") and lock it.
 - Step 2: Press "SET", "+" and "-" buttons to set 1" on caliper. After setting, the initial reading will be 1" instead of zero, when "SET" is pressed anytime.
 - Step 3: Put caliper into the micrometer, press "SET", the reading is 1".



- For external measurement, if the tips are spherical, it is difficult to set zero because the two tips may not be aligned.
 - Step 1: Find a gage block (for example, .5").
 - Step 2: Press "SET", "+" and "-" buttons to set .5" on caliper. After setting, the initial reading will be .5" instead of zero, when SET is pressed anytime.
 - Step 3: Hold the gage block, press "SET", the reading is .5".

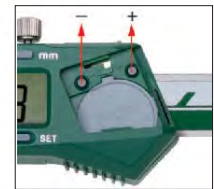


DATA
OUTPUT

ELECTRONIC CALIPER WITH INTERCHANGEABLE POINTS PART NO. 1124-300A

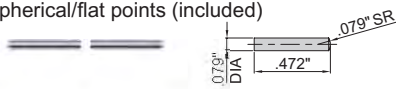


preset buttons

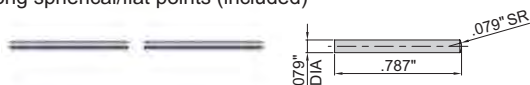


1124-300A

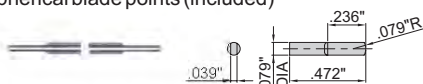
short spherical/flat points (included)



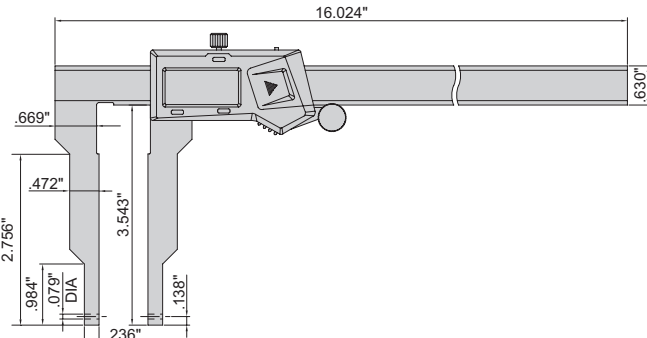
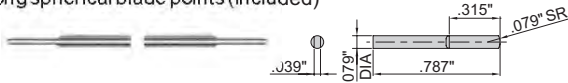
long spherical/flat points (included)



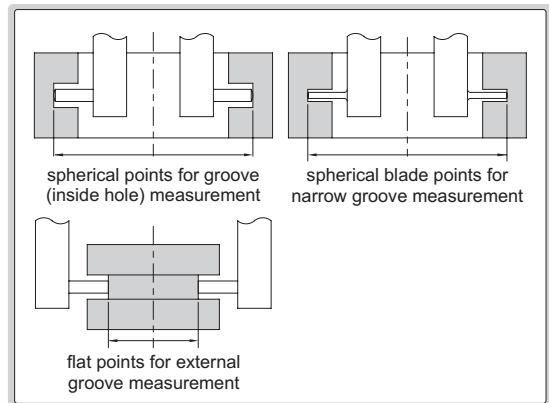
short spherical blade points (included)



long spherical blade points (included)



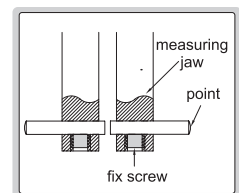
measure internal and external grooves



- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: points (part no. 1526-T101, 7392, 7391, 7381, 7321), data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Point	Range	Accuracy	Application
short spherical/flat points	1-12.7"/24-324mm(internal) 0-11.3"/0-288mm(external)	±.0016"	spherical points for grooves inside hole (small hole) flat points for external grooves
long spherical/flat points	1.5-13.3"/40-340mm(internal) 0-10.7"/0-272mm(external)	±.0016"	spherical points for grooves inside hole (large hole) flat points for external grooves
short spherical blade points	1-12.7"/24-324mm(internal) 0-11.3"/0-288mm(external)	±.0016"	for narrow grooves (small hole)
long spherical blade points	1.5-13.3"/40-340mm(internal) 0-10.7"/0-272mm(external)	±.0016"	for narrow grooves (large hole)

install points



Multifunctional points 7392 (optional, previous page)



Ball points 7391 (optional, previous page)



Screw thread points 7381, 7321 (optional, previous page)



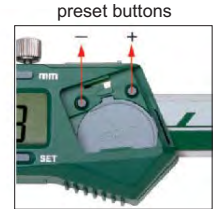
zero setting block for external measurement (included)



ELECTRONIC CALIPER WITH INTERCHANGEABLE POINTS

PART NO. 1526-200

DATA
OUTPUT

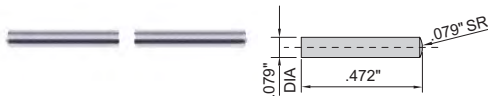


1526-200

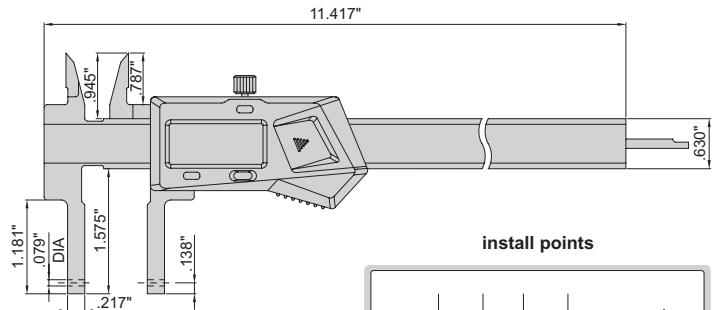
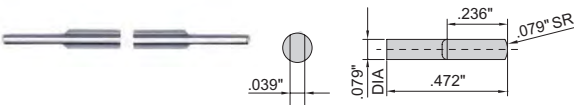
short spherical points (included)



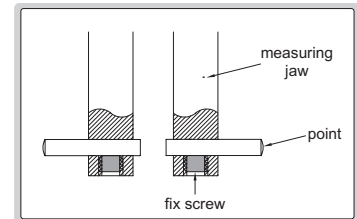
long spherical/flat points (included)



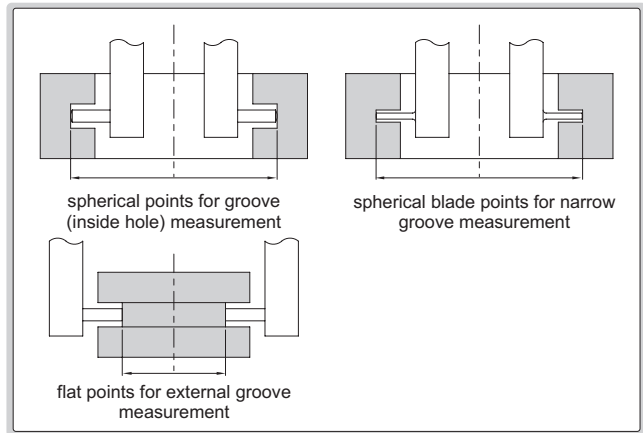
spherical blade points (included)



install points



measure internal and external grooves



- Supplied with 3 pairs of points and zero setting block for external measurement
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: points (part no. **1526-T101**, **7392**, **7391**, **7381**, **7321**), data output system (part no. **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

zero setting block for external measurement (included)

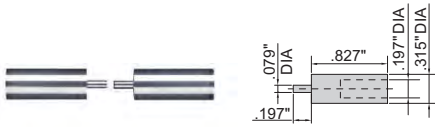


To be continued

Point	Range	Accuracy	Application
short spherical points	0.5-8.5"/12-212mm(internal)	±.0012"	for grooves inside small hole
long spherical/flat points	1-8.8"/24-224mm(internal) 0-7.5"/0-187mm(external)	±.0012"	spherical points for grooves inside hole flat points for external grooves
spherical blade points	1-8.8"/24-224mm(internal) 0-7.5"/0-187mm(external)	±.0012"	for narrow grooves

Continued from previous page

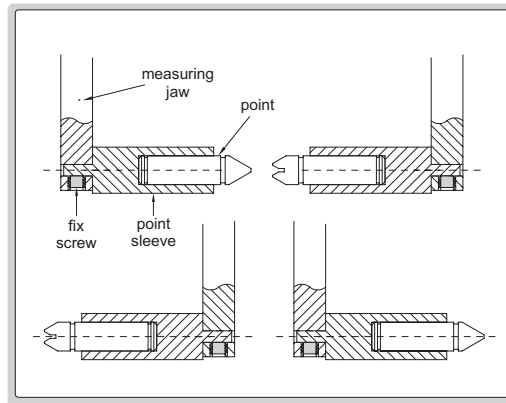
Point sleeve (optional)



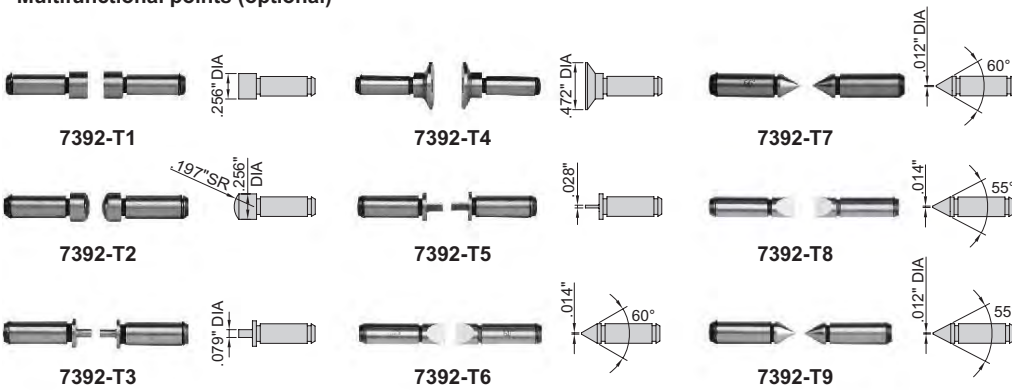
1526-T101

Part No.
1526-T101

installation

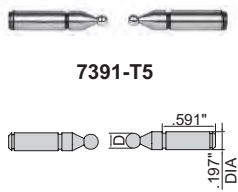


Multifunctional points (optional)



Part No.	Type
7392-T1	flat
7392-T2	spherical
7392-T3	spline
7392-T4	disk
7392-T5	blade
7392-T6	knife-edge
7392-T7	point
7392-T8	knife-edge
7392-T9	point

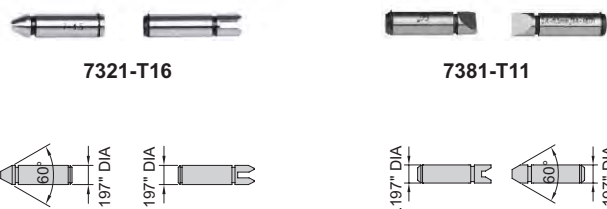
Ball points (optional)



7391-T5

Part No.	Ball dia.(D)
7391-T1	.039" DIA
7391-T2	.059" DIA
7391-T3	.079" DIA
7391-T4	.098" DIA
7391-T5	.118" DIA
7391-T6	.138" DIA
7391-T7	.157" DIA
7391-T8	.177" DIA
7391-T9	.197" DIA
7391-T10	.236" DIA
7391-TS	10 pairs/set, including all above points

Screw thread points (optional)



internal thread (60° thread angle)

Part No.	Pitch
7321-T11	64-48TPI/0.4-0.5mm
7321-T12	44-28TPI/0.6-0.9mm
7321-T13	24-14TPI/1-1.75mm
7321-T14	13-9TPI/2-3mm
7321-T15	8-5TPI/3.5-5mm
7321-T16	4.5-3.5TPI/5.5-7mm
7321-T1S	6 pairs/set, including all above points

external thread (60° thread angle)

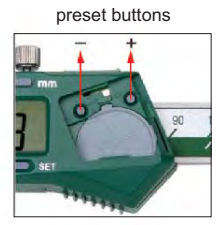
Part No.	Pitch
7381-T11	64-48TPI/0.4-0.5mm
7381-T12	44-28TPI/0.6-0.9mm
7381-T13	24-14TPI/1-1.75mm
7381-T14	13-9TPI/2-3mm
7381-T15	8-5TPI/3.5-5mm
7381-T16	4.5-3.5TPI/5.5-7mm
7381-TS	6 pairs/set, including all above points

ELECTRONIC INSIDE GROOVE CALIPER

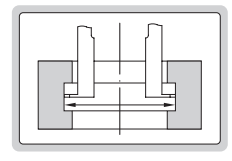
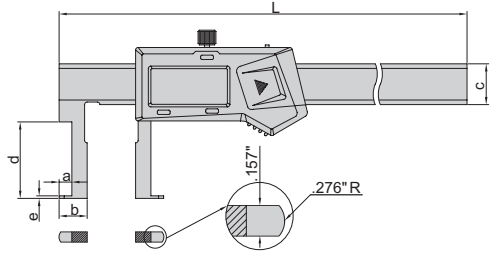
DATA OUTPUT



1120-150AE



- Measure groove diameter
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



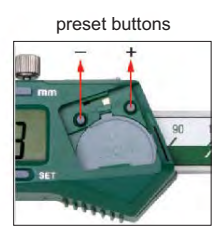
Part No.	Range	Accuracy	L	a	b	c	d	e
1120-150AE	1-6"/25.4-150mm	±.0016"	9.843"	.197"	.5000"	.630"	1.181"	.039"
1120-200A	1-8"/25-200mm	±.0016"	12.205"	.197"	.4921"	.630"	1.575"	.039"
1120-300A	1.2-12"/30-300mm	±.0020"	16.142"	.197"	.5906"	.669"	1.969"	.059"

ELECTRONIC INSIDE POINT CALIPER

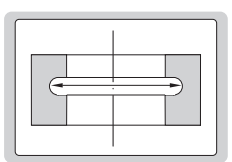
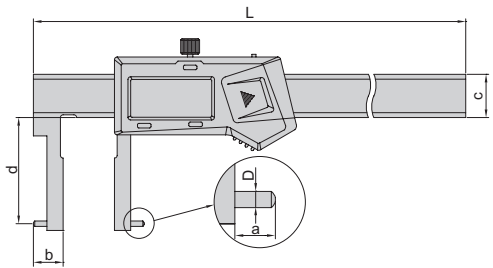
DATA OUTPUT



1121-150A



- Measure groove diameter
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	c	d	D
1121-150A	.9-6"/24-150mm	±.0016"	9.843"	.197"	.4724"	.630"	1.181"	.079" DIA
1121-200A	1-8"/25-200mm	±.0016"	12.205"	.197"	.4921"	.630"	1.575"	.079" DIA
1121-3001A	2-12"/50-300mm	±.0024"	16.142"	.315"	.9843"	.669"	3.150"	.118" DIA

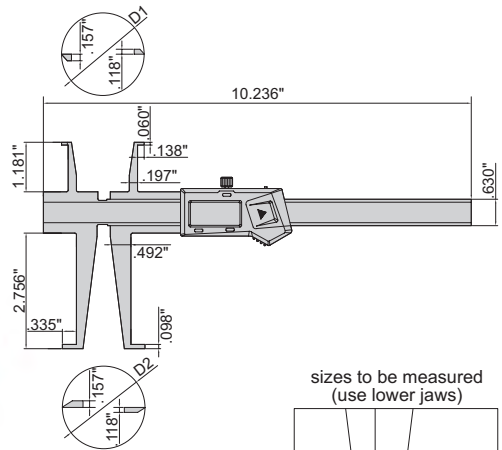
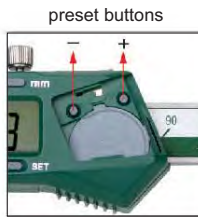
ELECTRONIC INSIDE GROOVE CALIPER



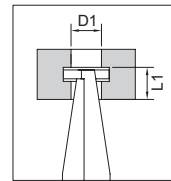
DATA
OUTPUT

1176-150

- Measure diameter of grooves inside bores
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

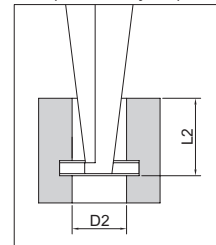


sizes to be measured (use upper jaws)



D1	L1
.354" DIA	<.315"
.394" DIA	<.591"
.433"~6" DIA	<1.181"

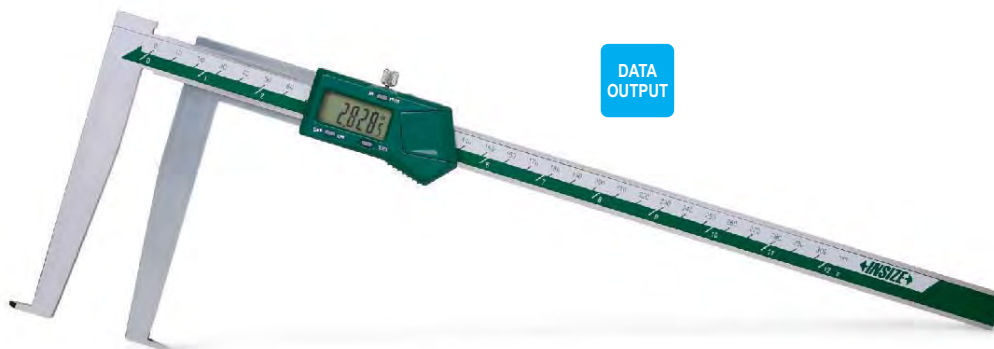
sizes to be measured (use lower jaws)



D2	L2	D2	L2
.590" DIA	<.394"	.748" DIA	<1.654"
.630" DIA	<.709"	.787" DIA	<1.969"
.669" DIA	<1.024"	.827" DIA	<2.283"
.709" DIA	<1.339"	.866"~6" DIA	<2.756"

Part No.	Range of upper jaw	Range of lower jaw	Accuracy
1176-150	.35-6"/9-150mm	.59-6"/15-150mm	±.0016"

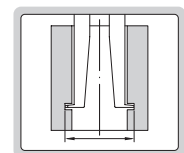
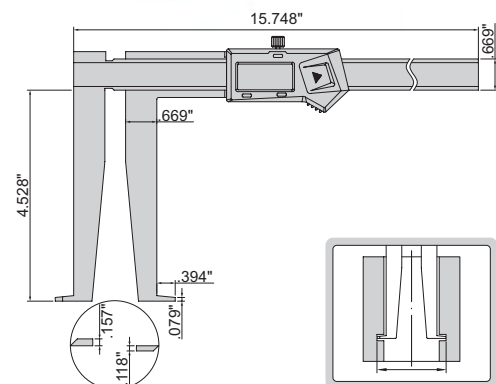
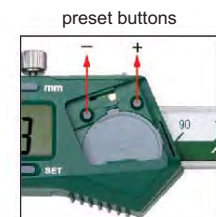
ELECTRONIC INSIDE GROOVE CALIPER



DATA
OUTPUT

1178-300

- Measure diameter of grooves inside bores
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



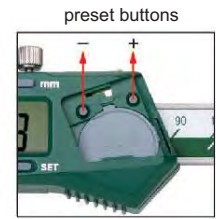
Part No.	Range	Accuracy
1178-300	1.18-12"/25-300mm	±.0020"

ELECTRONIC INSIDE GROOVE CALIPER

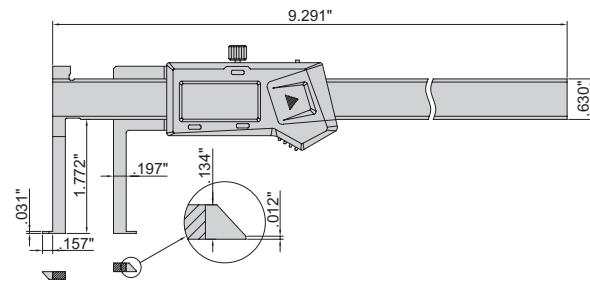
DATA
OUTPUT



1520-150



- Measure diameter of grooves inside small bores
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy
1520-150	.43-6"/11-150mm	±.0016"

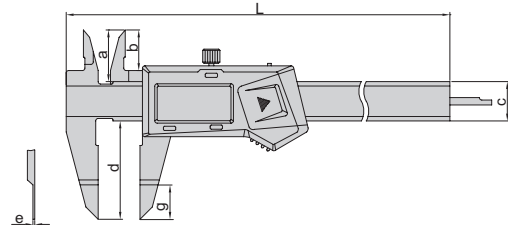
ELECTRONIC BLADE CALIPER

DATA
OUTPUT

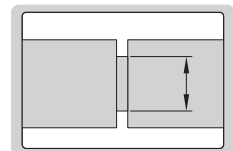


1188-150A

- The blade jaws fit into small grooves
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	c	d	e	g
1188-150A	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"	.030"	.669"
1188-200A	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"	.030"	.669"
1188-300A	0-12"/0-300mm	±.0016"	15.748"	.984"	.807"	.669"	2.362"	.039"	.669"

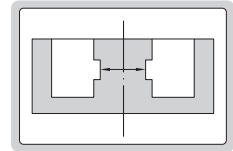


DATA
OUTPUT

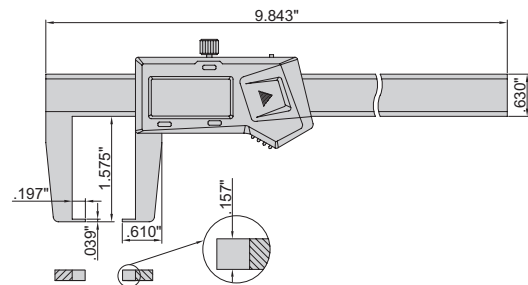
ELECTRONIC OUTSIDE NECK CALIPER



1187-150A



- Measure grooves and recesses
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



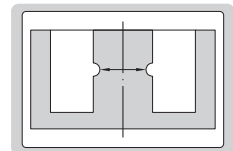
Part No.	Range	Accuracy
1187-150A	0-6"/0-150mm	±.0016"

DATA
OUTPUT

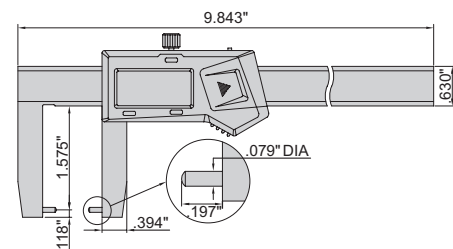
ELECTRONIC OUTSIDE POINT CALIPER



1185-150A



- Measure wall thickness inside bores and recesses
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



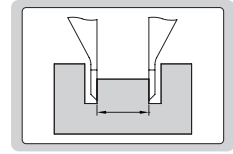
Part No.	Range	Accuracy
1185-150A	0-6"/0-150mm	±.0016"

ELECTRONIC SMALL POINT CALIPER

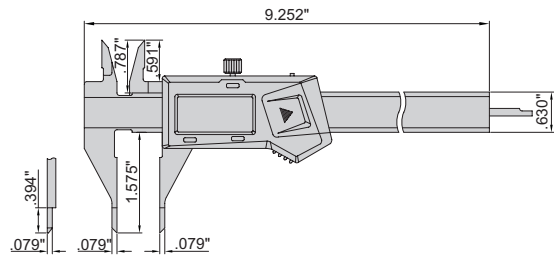
DATA
OUTPUT



1169-150



- Small pointed jaws fit into small grooves and recesses
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



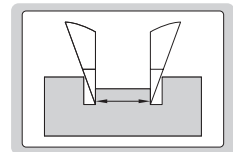
Part No.	Range	Accuracy
1169-150	0-6"/0-150mm	±.0012"

ELECTRONIC POINT CALIPER

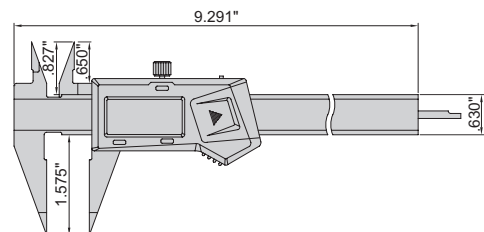
DATA
OUTPUT



1183-150A



- Pointed jaws fit into small grooves and recesses
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy
1183-150A	0-6"/0-150mm	±.0012"

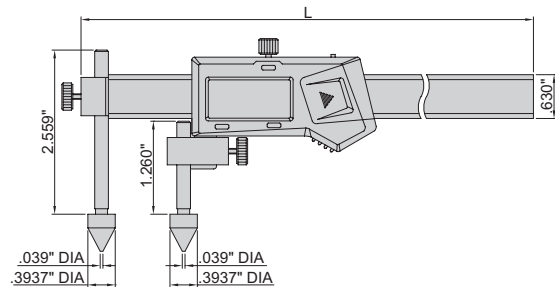
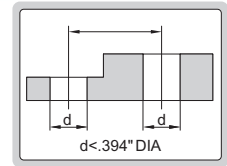
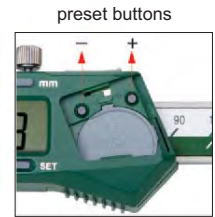
DATA
OUTPUT

ELECTRONIC OFFSET CENTERLINE CALIPER



1192-150A

- Measure hole center distance in the same or offset planes
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L
1192-150A	.4"-6"/10-150mm	±.0020"	9.291"
1192-200A	.4"-8"/10-200mm	±.0028"	11.260"
1192-300A	.4"-12"/10-300mm	±.0035"	15.591"

DATA
OUTPUT

ELECTRONIC BACK-JAW CENTERLINE CALIPER



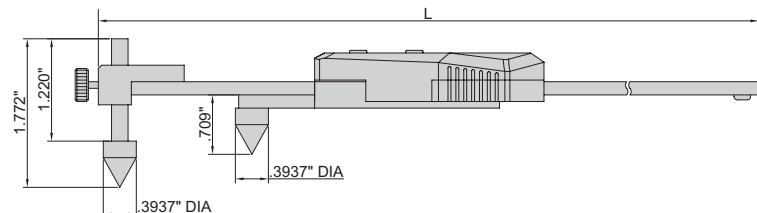
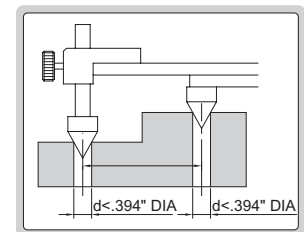
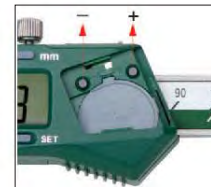
1177-200

- Measure hole center distance in the same or offset planes
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

back-jaw



preset buttons



Part No.	Range	Accuracy	L
1177-200	.4-8"/10-200mm	±.0039"	12.205"
1177-300	.4-12"/10-300mm	±.0039"	16.142"

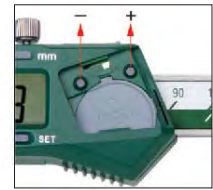
ELECTRONIC CENTERLINE/EDGE TO CENTER CALIPER

DATA
OUTPUT

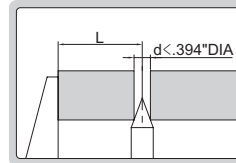


1525-300

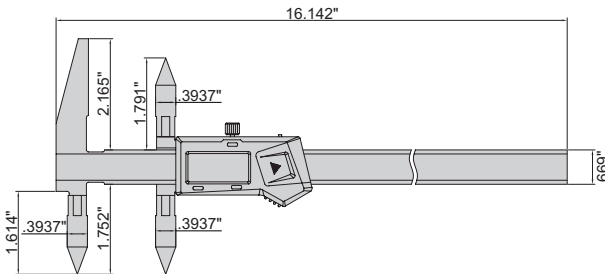
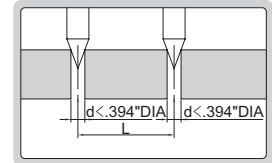
preset buttons



measure edge to
hole center distance



measure hole center distance



Part No.	Range of upper jaw (edge to center)	Range of lower jaw (center to center)	Accuracy
1525-300	.2-12"/5-300mm	.4-12"/10-300mm	±.0031"

- Measure hole center distance or edge to hole center distance
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

ELECTRONIC BACK-JAW EDGE TO CENTER CALIPER

DATA
OUTPUT

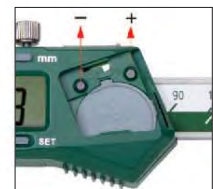


1524-200

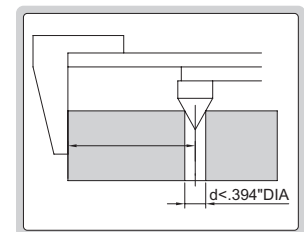
back-jaw



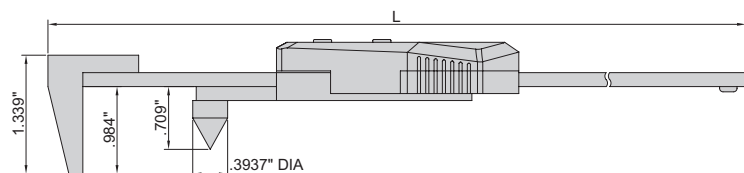
preset buttons



- Measure edge to hole center distance
- Resolution: .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

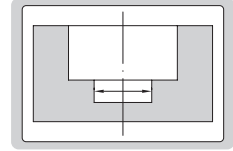


Part No.	Range	Accuracy	L
1524-200	.2-8"/5-200mm	±.0039"	12.205"
1524-300	.2-12"/5-300mm	±.0039"	16.142"



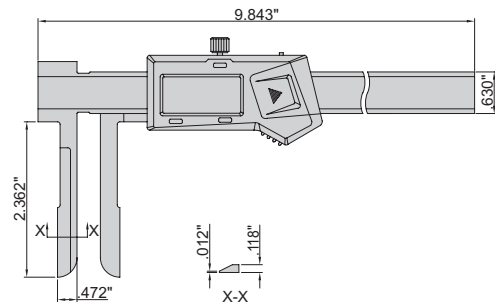
DATA
OUTPUT

ELECTRONIC INSIDE KNIFE-EDGE CALIPER



1123-150A

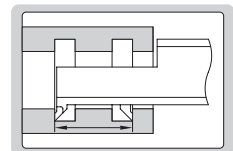
- Measure diameter of deep step holes
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy
1123-150A	.6-6"/15-150mm	±.0020"

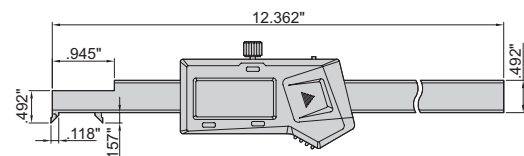
DATA
OUTPUT

ELECTRONIC HOOK CALIPER



1122-200A

- Measure width of groove inside bores
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



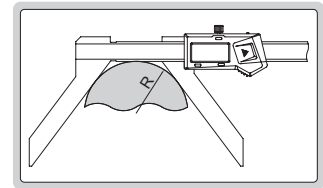
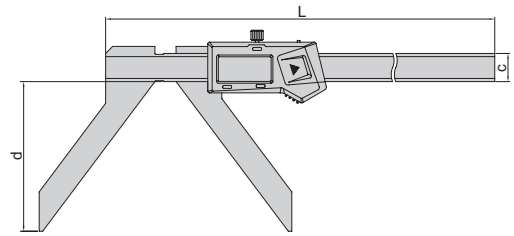
Part No.	Range	Accuracy
1122-200A	.12-8"/3-200mm	±.0012"

ELECTRONIC ARC RADIUS CALIPER

DATA OUTPUT



1189-150B



- Measure the radius of arc less than half round
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

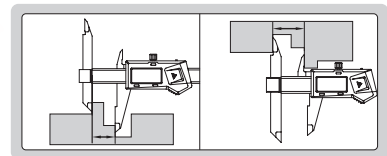
Part No.	Range (R)	Accuracy	L	c	d
1189-150B	.2-6"/5-150mm	±.0020"	10.354"	.630"	2.559"
1189-200B	.2-8"/5-200mm	±.0028"	12.323"	.630"	3.346"

ELECTRONIC OFFSET CALIPER

DATA OUTPUT

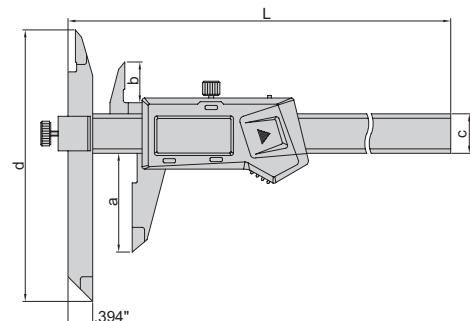


1186-150A



- The left jaw can slide up and down to facilitate measurement of stepped sections
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Part No.	Range	Accuracy	L	a	b	c	d
1186-150A	0-6"/0-150mm	±.0016"	9.409"	1.575"	.650"	.630"	4.331"
1186-200A	0-8"/0-200mm	±.0016"	11.378"	1.969"	.768"	.630"	4.724"
1186-300A	0-12"/0-300mm	±.0020"	15.315"	2.362"	.807"	.669"	5.118"



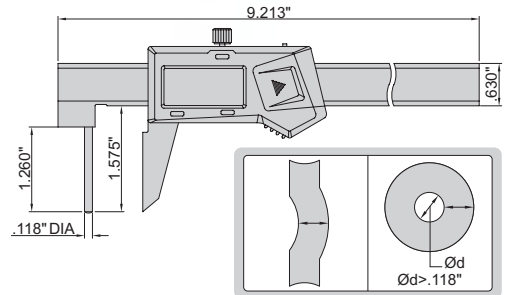
DATA
OUTPUT

ELECTRONIC TUBE THICKNESS CALIPER

- Measure wall thickness of tubes
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



1161-150A



Part No.	Range	Accuracy
1161-150A	0-6"/0-150mm	±.0020"

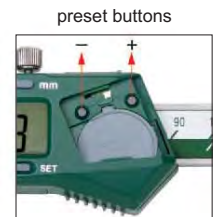
DATA
OUTPUT

ELECTRONIC RTJ RING GROOVE CALIPER

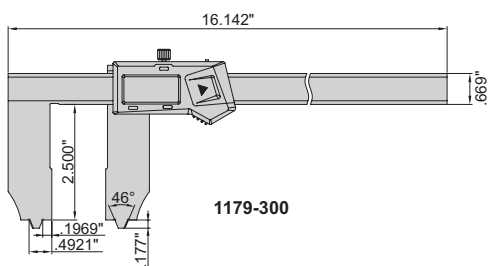
- Measure ring grooves of flange
- Resolution: .0005"/0.01mm
- Button function: on/off, set, zero, inch/mm, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



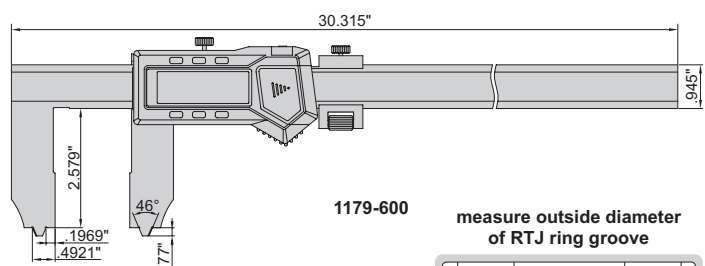
1179-300



1179-600

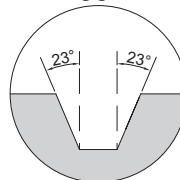


1179-300

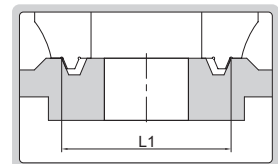


1179-600

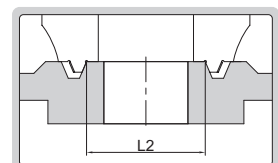
applicable for RTJ ring grooves with angle 23°



measure outside diameter of RTJ ring groove



measure inside diameter of RTJ ring groove



Part No.	Range (inside diameter of RTJ ring groove)	Range (outside diameter of RTJ ring groove)	Angle of RTJ ring groove	Accuracy
1179-300	.4-12"/10-300mm	1-12"/25-300mm	23°	±.0020"
1179-600	.4-24"/10-600mm	1-24"/25-600mm	23°	±.0024"

ELECTRONIC CRIMP HEIGHT CALIPER

RELATIVE PRODUCT:
CRIMP HEIGHT MICROMETER
(PART NO. 3266-25BA, 3566-25BA)

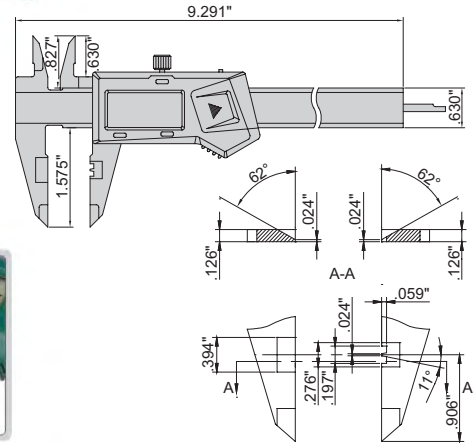
DATA
OUTPUT



1165-150A

- Measure crimp height
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Part No.	Range	Accuracy
1165-150A	0-6"/0-150mm	±.0012"



ELECTRONIC CALIPER WITH LARGE MEASURING FACES

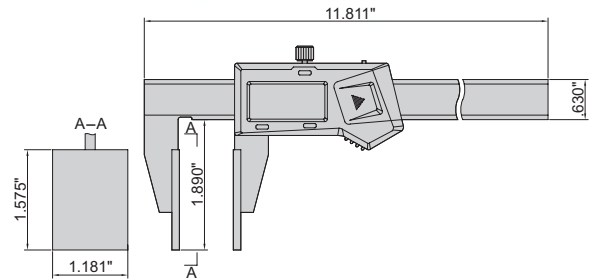
DATA
OUTPUT



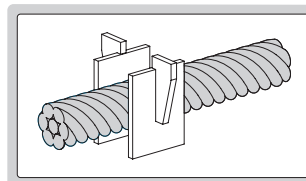
1172-200

- Measure diameter of wire ropes, and thickness of soft materials like rubber, sponge, etc.
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

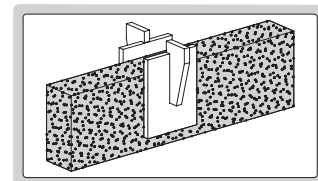
Part No.	Range	Accuracy
1172-200	0-8"/0-200mm	±.0028"



measure diameter of wire ropes



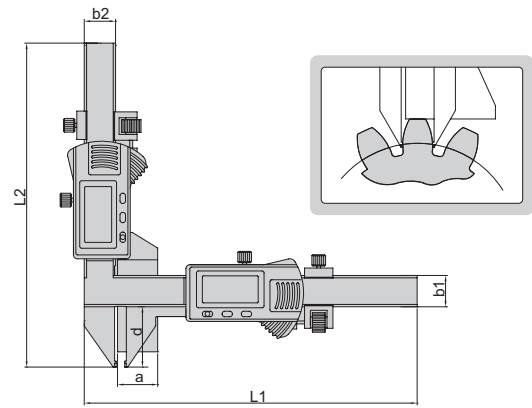
measure thickness of rubber, sponge, etc.





DATA
OUTPUT

ELECTRONIC GEAR TOOTH CALIPER



1181-M25A

Part No.	Range	Accuracy	L1	L2	a	b1	b2	d
1181-M25A	P1-P24	±.0016"	6.693"	6.516"	.827"	.630"	.630"	1.201"
1181-M50A	P1/2-P5	±.0016"	8.661"	7.480"	1.988"	.630"	.630"	2.165"

- Resolution: .0005"/0.01mm
- Carbide tips
- Buttons: zero, on/off, inch/mm
- Battery SR44 or LR44
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



DATA
OUTPUT

RELATIVE PRODUCT:
DISK BRAKE MICROMETER
(PART NO. 3288-, 3588-)

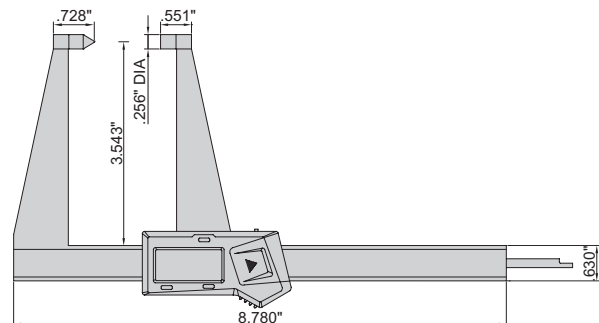
ELECTRONIC DISK BRAKE CALIPER



1162-125A

- Measure thickness of disk brakes
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Part No.	Range	Accuracy
1162-125A	0-5"/0-125mm	±.0020"



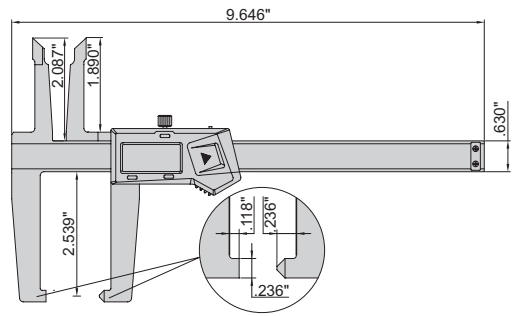
DATA
OUTPUT

ELECTRONIC DISK BRAKE AND PAD CALIPER



1167-150A

RELATIVE PRODUCT:
DISK BRAKE MICROMETER
(PART NO. 3288-, 3588-)



- Measure thickness of disk brakes and pad wear
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy
1167-150A	0-6"/0-150mm	±.0028"

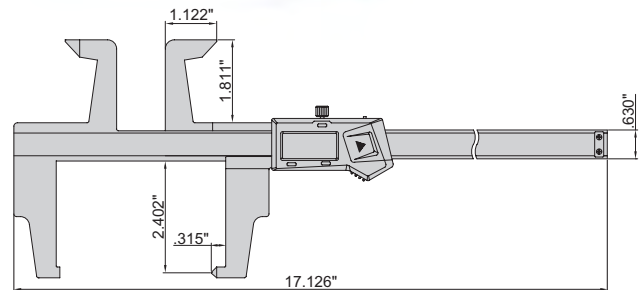
DATA
OUTPUT

ELECTRONIC DRUM BRAKE CALIPER



1168-300A

RELATIVE PRODUCT:
DISK BRAKE MICROMETER
(PART NO. 3288-, 3588-)



- Measure internal and external diameter of drum brakes
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



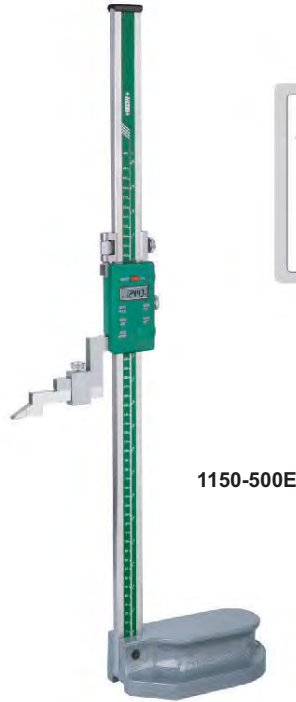
Part No.	Range	Accuracy
1168-300A	0-12"/0-300mm	±.0028"

DATA
OUTPUT

ELECTRONIC HEIGHT GAGE



1150-1000E



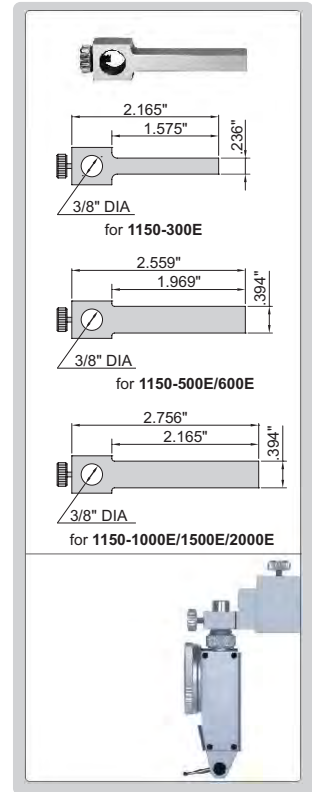
1150-500E

data output cable

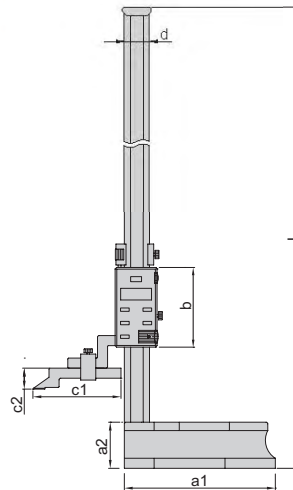


7301-SPC5

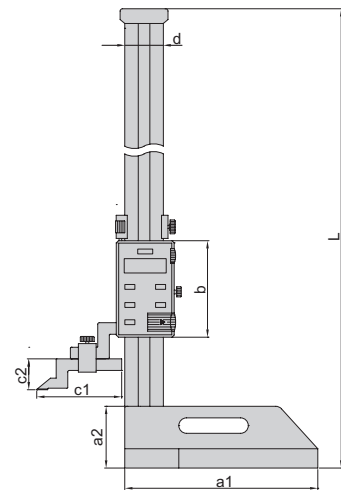
dial test indicator holder (included)



- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, ABS/INC, data hold, TOL, set
- ABS/INC is for absolute and incremental measurement
- TOL is for tolerance measurement
- Carbide tipped scribe
- Made of stainless steel (except the base)
- SR44 or LR44 battery
- Data output
- Supplied with dial test indicator holder
- Optional accessory: data output cable (part no. 7301-SPC5)



type A



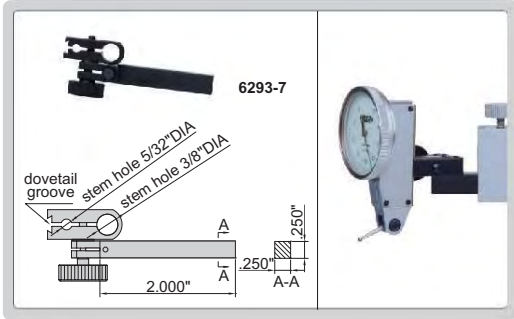
type B

Part No.	Range	Type	Accuracy	L	a1	a2	b	c1	c2	d
1150-300E	0-12"/0-300mm	A	±.0016"	18.504"	5.315"	1.772"	3.150"	2.992"	.984"	.906"
1150-500E	0-20"/0-500mm	A	±.0020"	28.346"	7.087"	2.165"	3.740"	4.055"	.984"	1.181"
1150-600E	0-24"/0-600mm	B	±.0020"	32.283"	7.087"	2.165"	3.740"	4.055"	.984"	1.181"
1150-1000E	0-40"/0-1000mm	B	±.0028"	50.197"	9.843"	3.150"	4.921"	4.331"	1.535"	1.969"
1150-1500E	0-60"/0-1500mm	B	±.0043"	70.472"	11.024"	3.150"	4.921"	4.331"	1.535"	1.969"
1150-2000E	0-80"/0-2000mm	B	±.0059"	90.157"	11.024"	3.150"	4.921"	4.331"	1.535"	1.969"

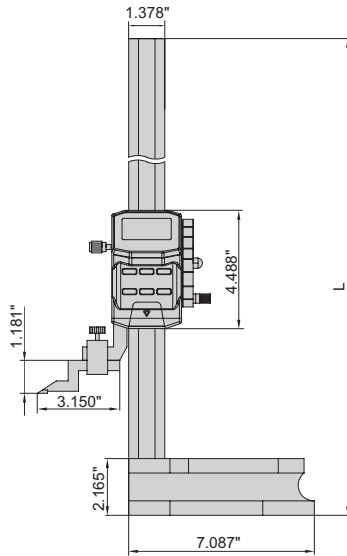
ELECTRONIC HEIGHT GAGE WITH DRIVING WHEEL

DATA OUTPUT

dial test indicator holder (optional)



- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, preset +, preset -, hold
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scribe
- Made of stainless steel
- Battery CR2032
- Data output
- Optional accessory: data output system(part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)
- dial test indicator holder (part no. 6293-7)



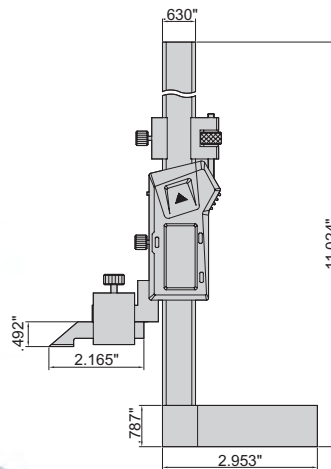
1156-300

Part No.	Range	Accuracy	L
1156-300	0-12"/0-300mm	±.0012"	20.276"
1156-600	0-24"/0-600mm	±.0020"	32.867"

ELECTRONIC HEIGHT GAGE

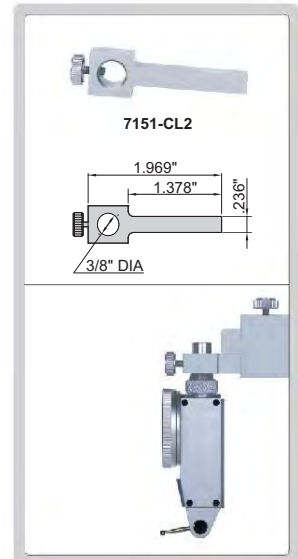
DATA OUTPUT

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scribe
- With fine adjustment
- Made of stainless steel
- Battery CR2032
- Data output
- Optional accessory: data output system, dial test indicator holder (part no. 7151-CL2)



1154-150

dial test indicator holder (optional)



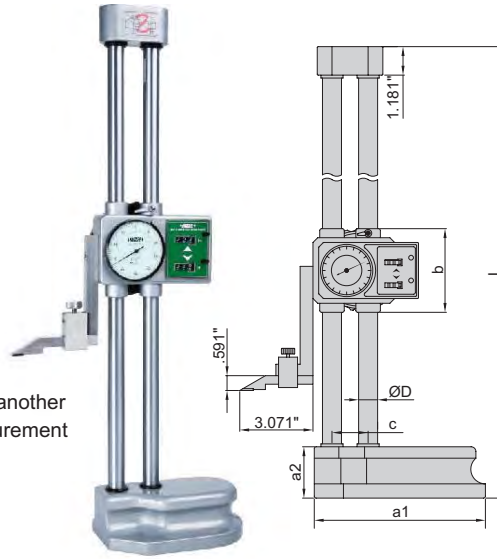
Part No.	Range	Accuracy
1154-150	0-6"/0-150mm	±.0012"

DIAL HEIGHT GAGE



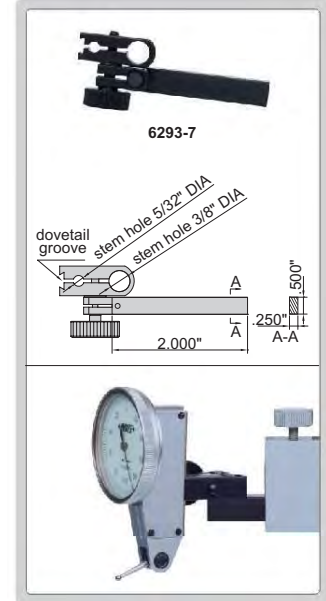
driving wheel

- Dial indicator graduation: .001"
- One counter reads in the plus direction and another in the minus direction, so incremental measurement can be made in either direction
- Carbide tipped scriber
- Made of stainless steel (except the base)
- With driving wheel
- Optional accessory: dial test indicator holder (part no. 6293-7)



1351-12

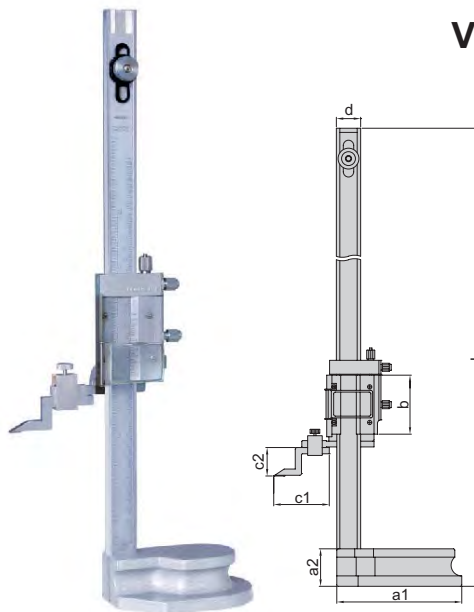
dial test indicator holder (optional)



Part No.	Range	Accuracy	L	a1	a2	b	c	D
1351-12	0-12"	±.0016"	18.701"	5.315"	1.693"	3.307"	1.299"	.591" DIA
1351-18	0-18"	±.0020"	25.984"	7.087"	2.126"	3.465"	1.496"	.787" DIA
1351-24	0-24"	±.0020"	31.890"	7.087"	2.126"	3.465"	1.496"	.787" DIA

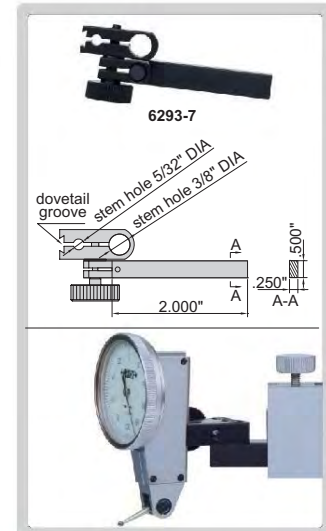
VERNIER HEIGHT GAGE

- Graduation: .001"/0.02mm
- Adjustable main scale to set zero
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Supplied with magnifier
- With fine adjustment
- Optional accessory: dial test indicator holder (part no. 6293-7)



1250-300

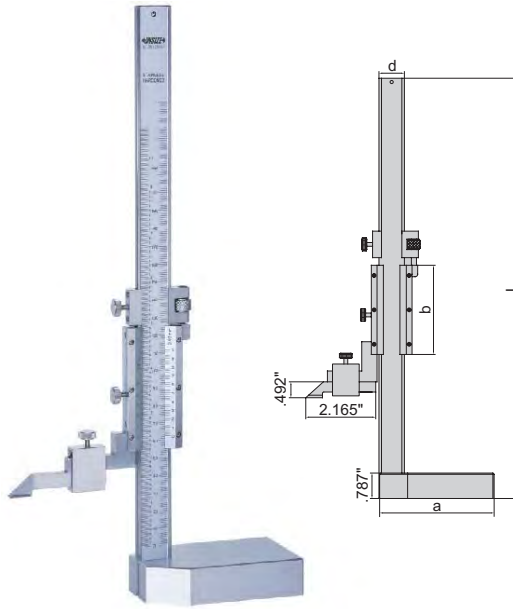
dial test indicator holder (optional)



Part No.	Range	Accuracy	L	a1	a2	b	c1	c2	d
1250-300	0-12"/0-300mm	±.0016"	21.457"	5.315"	1.693"	2.953"	3.150"	1.181"	1.102"
1250-450	0-18"/0-450mm	±.0020"	28.346"	7.087"	2.126"	3.346"	3.150"	1.614"	1.378"
1250-600	0-24"/0-600mm	±.0020"	34.252"	7.087"	2.126"	3.346"	3.150"	1.614"	1.378"

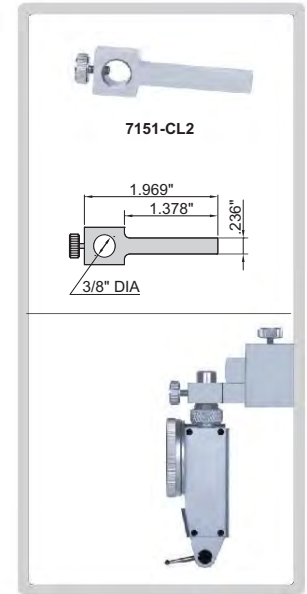
VERNIER HEIGHT GAGE

- Graduation: .001"/0.02mm
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (part no. 7151-CL2)
- Supplied in fitted storage case



1253-200

dial test indicator holder (optional)

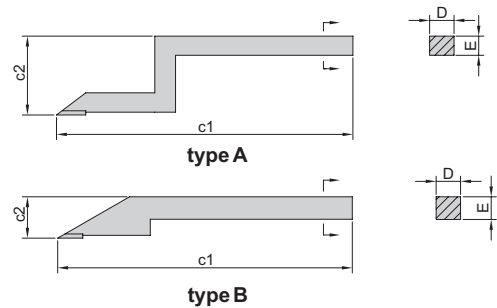


Part No.	Range	Accuracy	L	a	b	d
1253-150	0-6"/0-150mm	±.0012"	10.433"	2.953"	2.244"	.630"
1253-200	0-8"/0-200mm	±.0012"	12.795"	3.543"	2.756"	.787"

SCRIBER FOR HEIGHT GAGES



7150-SC1



- Carbide tipped

Part No.	For height gages	Type	c1	c2	D	E
7150-SC1	1150-300E	A	2.992"	.984"	.236"	.315"
7150-SC2	1150-500E, 1150-600E	A	4.055"	.984"	.394"	.472"
7150-SC3	1150-1000E, 1150-1500E, 1150-2000E	A	4.331"	1.535"	.394"	.591"
7150-SC4	1351-12, 1351-18, 1351-24	B	3.071"	.591"	.354"	.354"
7150-SC6	1250-300, 1156-300, 1156-600	A	3.150"	1.181"	.354"	.354"
7150-SC7	1250-450, 1250-600	A	3.150"	1.614"	.354"	.354"
7150-SC9	1253-150, 1253-200, 1154-150	B	2.165"	.492"	.236"	.315"

ELECTRONIC WATERPROOF DEPTH GAGE

IP67
WATERPROOF

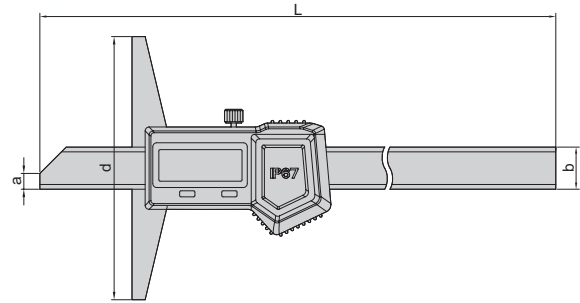


ATTENTION: IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME

ATTENTION: NO DATA OUTPUT

1149-150

- IP67 dust/waterproof
- Resolution: .0005"/0.01mm
- Button function: zero, on/off, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel



Part No.	Range	Accuracy	L	a	b	d
1149-150	0-6"/0-150mm	±.0012"	9.449"	.236"	.630"	3.937"
1149-200	0-8"/0-200mm	±.0012"	11.417"	.236"	.630"	3.937"
1149-300	0-12"/0-300mm	±.0012"	15.354"	.236"	.630"	5.906"

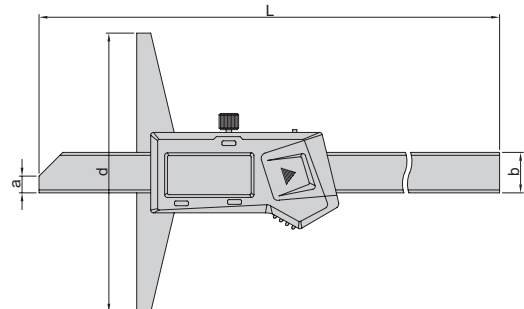
ELECTRONIC DEPTH GAGE

DATA
OUTPUT



1141-150A

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Range	Accuracy	L	a	b	d
1141-150A	0-6"/0-150mm	±.0012"	9.055"	.236"	.571"	3.937"
1141-200A	0-8"/0-200mm	±.0012"	11.024"	.236"	.571"	3.937"
1141-300A	0-12"/0-300mm	±.0012"	14.961"	.236"	.571"	5.906"
1141-500A	0-20"/0-500mm	±.0020"	23.031"	.276"	.591"	5.906"

ELECTRONIC DEPTH GAGE

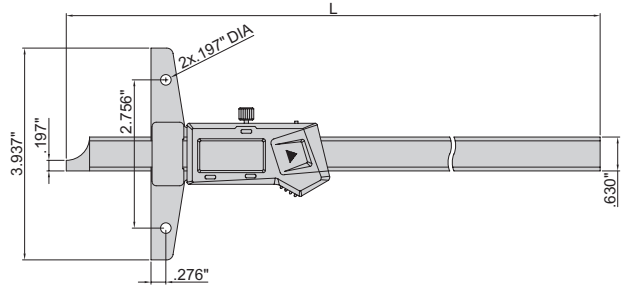
DATA OUTPUT

CAN BE INSTALLED WITH EXTENSION BASE



1147-300

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2), extension base (part no. 6141)



extension base (optional)



Part No.	Range	Accuracy	L
1147-150	0-6"/0-150mm	±.0012"	
1147-200	0-8"/0-200mm	±.0012"	
1147-300	0-12"/0-300mm	±.0012"	15.866"

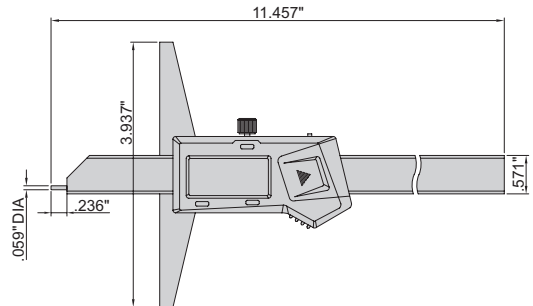
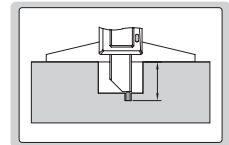
ELECTRONIC POINT DEPTH GAGE

DATA OUTPUT



1143-200A

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



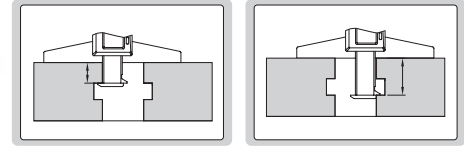
Part No.	Range	Accuracy
1143-200A	0-8"/0-200mm	±.0012"

ELECTRONIC DOUBLE HOOK DEPTH GAGE

DATA
OUTPUT

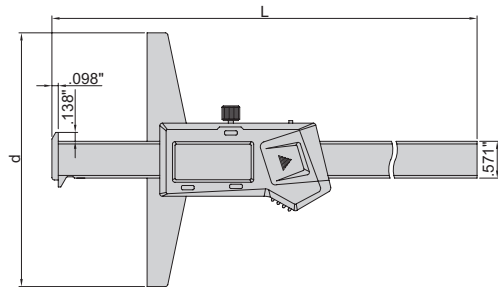


1144-150A



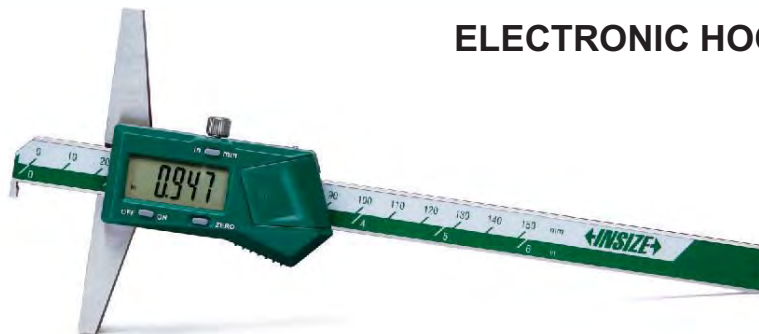
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Part No.	Range	Accuracy	L	d
1144-150A	0-6"/0-150mm	±.0012"	9.173"	3.937"
1144-200A	0-8"/0-200mm	±.0012"	11.142"	3.937"
1144-300A	0-12"/0-300mm	±.0012"	15.079"	5.906"



DATA
OUTPUT

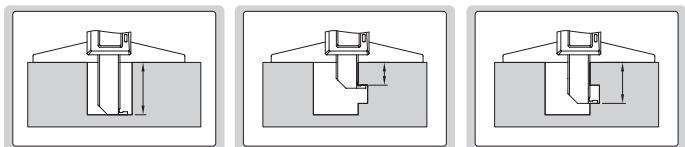
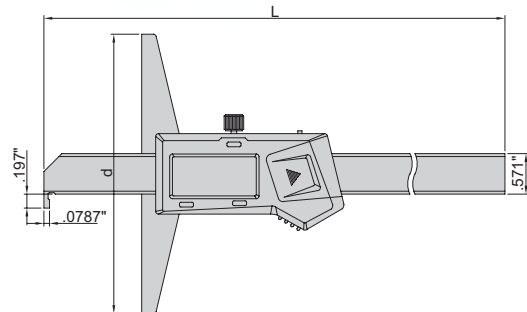
ELECTRONIC HOOK DEPTH GAGE



1142-150A

- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Part No.	Range	Accuracy	L	d
1142-150A	0-6"/0-150mm	±.0012"	9.055"	3.937"
1142-200A	0-8"/0-200mm	±.0012"	11.024"	3.937"
1142-300A	0-12"/0-300mm	±.0016"	14.961"	5.906"

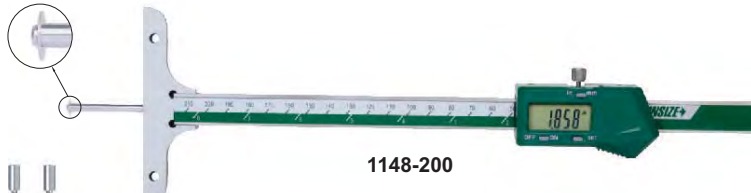


ELECTRONIC DEPTH GAGE WITH ROUND DEPTH BAR

MEASURE WIDTH AND DEPTH OF GROOVES INSIDE BORE

MEASURE DEPTH OF SMALL HOLES (>.157"DIA)

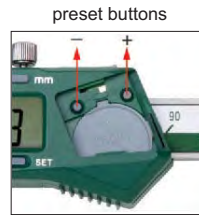
DATA OUTPUT



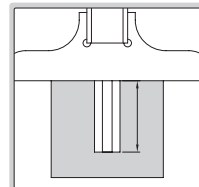
one-hand use of 1148-120



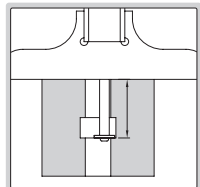
- Resolution: .0005"/0.01mm
- Supplied with three interchangeable points (flat, spherical, disk)
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory:
data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2),
disk points (see below table),
extension base (part no. 6141, for 1148-120 and 1148-200)



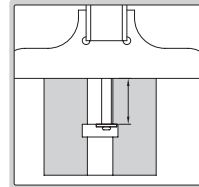
measure depth of small holes (>.157"DIA)



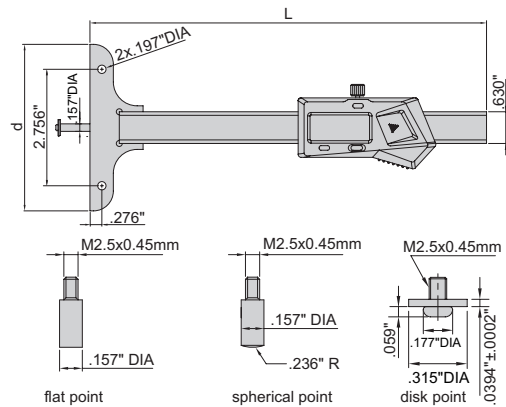
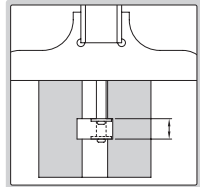
measure depth of grooves inside bore



measure depth of grooves inside bore



measure width of grooves inside bore



extension base for 1148-120 and 1148-200 (optional)



1148-P101 (optional)



1148-P103 (optional)

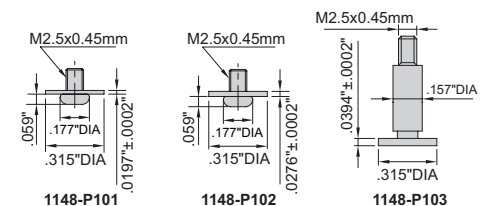


Part No.	Range *	Accuracy	L	d	Remark
1148-100S	0-4"/0-100mm	±.0008"	7.874"	1.772"	
1148-100	0-4"/0-100mm	±.0008"	7.874"	3.346"	
1148-120	0-4.7"/0-120mm	±.0012"	11.811"	3.976"	one-hand use, with clamp holes for extension base
1148-200	0-8"/0-200mm	±.0012"	11.811"	3.976"	with clamp holes for extension base

* When disk points are used, the range will be reduced by .394"

OPTIONAL DISK POINTS

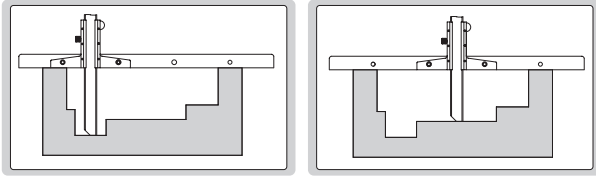
Part No.	Description	Remark
1148-P101	.0197" disk point	for narrow grooves
1148-P102	.0276" disk point	for narrow grooves
1148-P103	.0394" disk point	for grooves inside blind hole



EXTENSION BASE

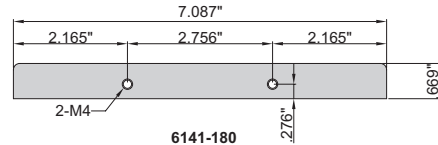


6141-260

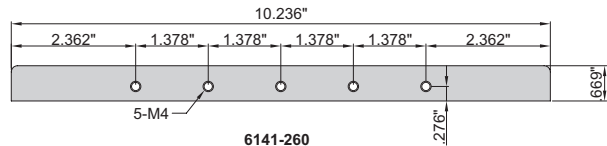


- Supplied with two screws
- Made of stainless steel
- Suitable for electronic depth gage series 1147

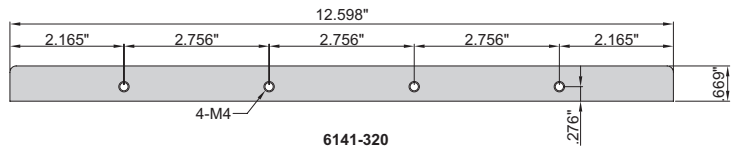
Part No.	Length
6141-180	7.087"
6141-260	10.236"
6141-320	12.598"



6141-180



6141-260



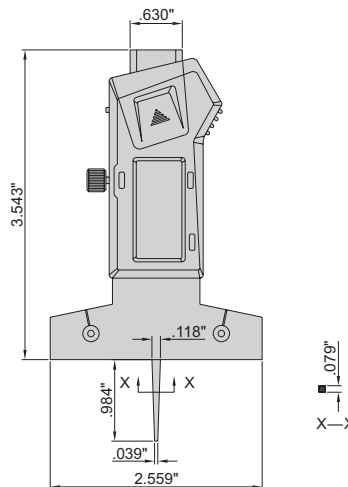
6141-320

ELECTRONIC DEPTH GAGE

DATA
OUTPUT

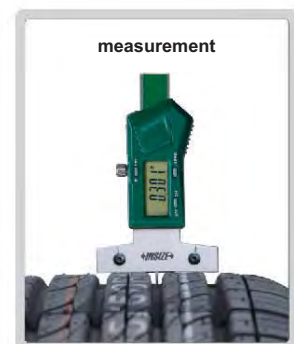


1145-25A



- Measure depth of small groove and hole, also measure depth of tire tread
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Supplied with zero set surface
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

Part No.	Range	Accuracy
1145-25A	0-1"/0-25mm	±.0012"

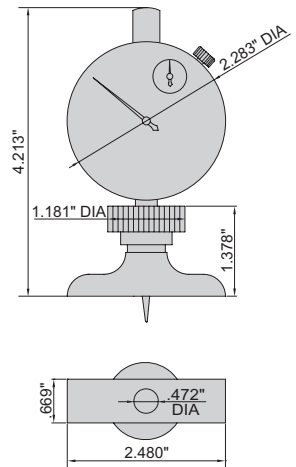
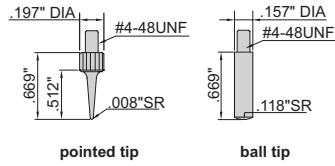


DIAL DEPTH GAGE

- Stainless steel base
- Supplied with pointed tip and ball tip



2341-E1



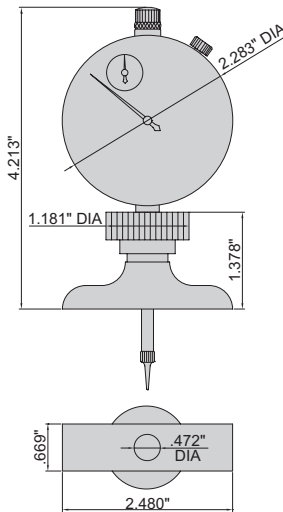
Part No.	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2341-E1	0-1.2"	.5"	.001"	±.002"

DIAL DEPTH GAGE

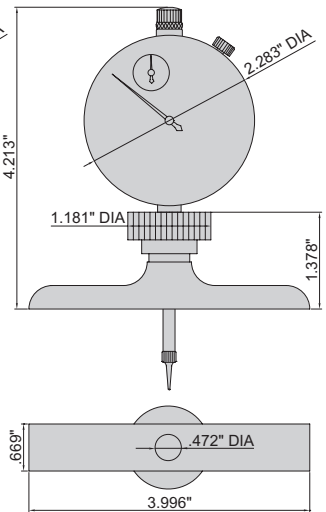


2341-2E2

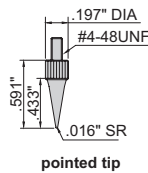
- Dial indicator graduation: .001"
- Accuracy: ±.002"
- Stainless steel base
- Extension rods: 1"(1pc), 2"(1pc), 3"(1pc), 4"(2pcs)
- Supplied with pointed tip and ball tip



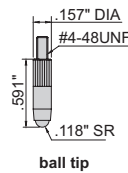
2341-2E1



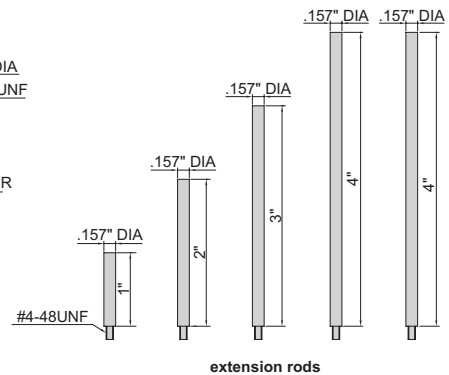
2341-2E2



pointed tip



ball tip



extension rods

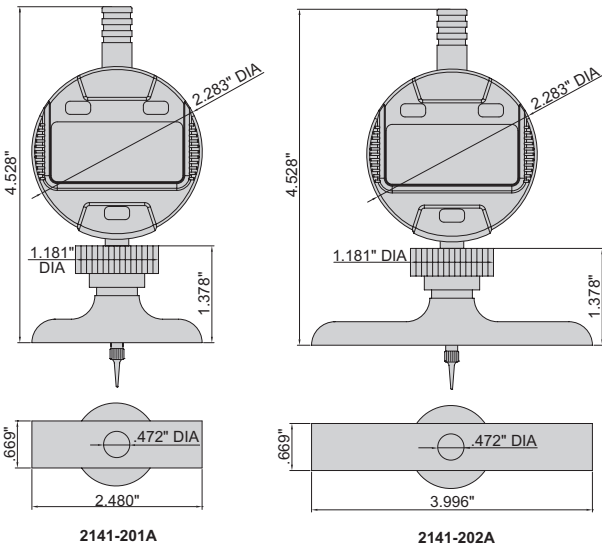
Part No.	Range	Dial indicator stroke	Base
2341-2E1	0-12"	1"	2.480 x .669"
2341-2E2	0-12"	1"	3.996 x .669"

DATA
OUTPUT

ELECTRONIC DEPTH GAGE

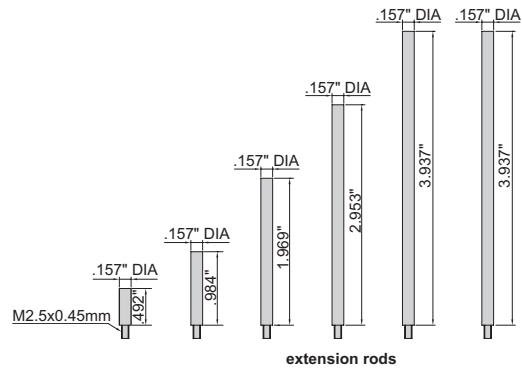


2141-202A



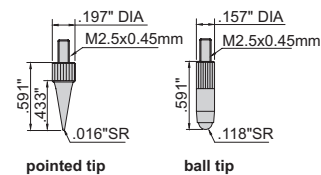
2141-201A

2141-202A



extension rods

- Button function: on/off, zero, inch/mm, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off
- Data output
- Stainless steel base
- Supplied with pointed tip and ball tip
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)

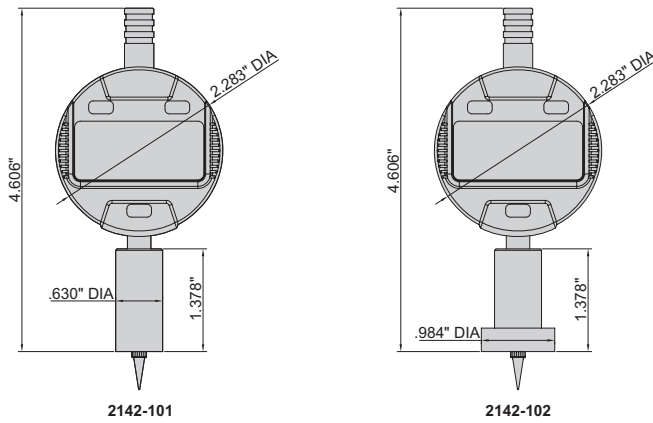


pointed tip

ball tip

Part No.	Range	Digital indicator stroke	Digital indicator resolution	Accuracy	Base
2141-201A	0-12"/0-300mm	.5"/12.7mm	.0005"/0.01mm	±.0008"	2.480 x .669"
2141-202A	0-12"/0-300mm	.5"/12.7mm	.0005"/0.01mm	±.0008"	3.996 x .669"

ELECTRONIC DEPTH GAGE



2142-101

2142-102



2142-102

DATA
OUTPUT

- Button function: on/off, zero, inch/mm, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off
- Data output
- Stainless steel base
- Pointed tip
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)

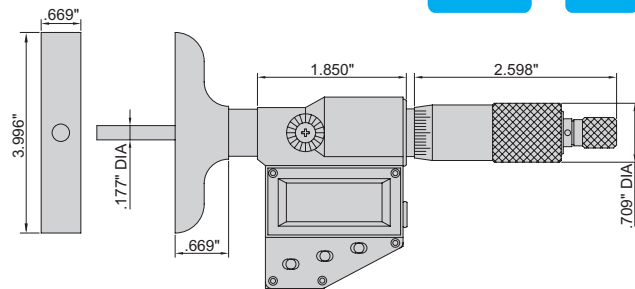
Part No.	Range	Digital indicator stroke	Digital indicator resolution	Accuracy	Base
2142-101	0-.5"/0-12.7mm	.5"/12.7mm	.0005"/0.01mm	±.0008"	.630" DIA
2142-102	0-.5"/0-12.7mm	.5"/12.7mm	.0005"/0.01mm	±.0008"	.984" DIA

ELECTRONIC DEPTH MICROMETER



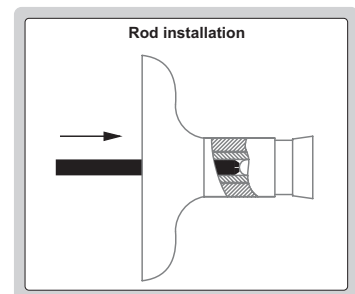
3540-150E

- Resolution: .00005"/0.001mm
- Micrometer head accuracy: ±.00012"
- Rod accuracy: ±[.001+.0005(L/3)]", L is the measuring range in inch
- Button function: on/off, set, inch/mm, ABS/INC, data output
- IP54 dust/waterproof
- Data output
- SR44 or LR44 battery, automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)



IP54
WATERPROOF

DATA
OUTPUT

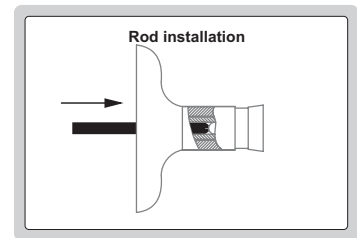
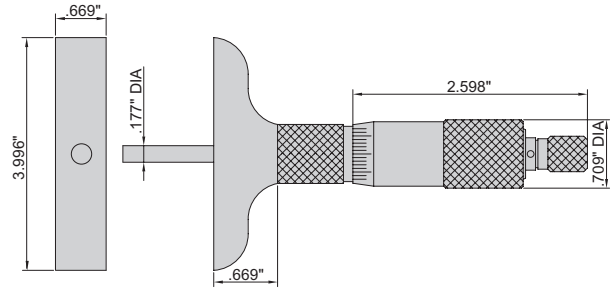


Part No.	Range	Rods
3540-50E	0-2"/0-50mm	2pcs
3540-150E	0-6"/0-150mm	6pcs
3540-300E	0-12"/0-300mm	12pcs

DEPTH MICROMETER



3240-6



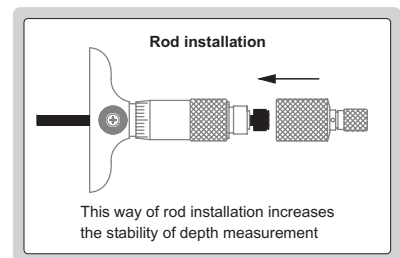
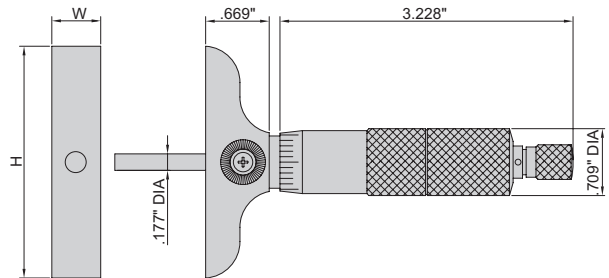
Part No.	Range	Rods
3240-1	0-1"	1pc
3240-4	0-4"	2pcs
3240-6	0-6"	6pcs

- Graduation: .001"
- Micrometer head accuracy: ± 0.00012 "
- Rod accuracy: $\pm [0.001 + 0.0005(L/3)]$ ",
L is the measuring range in inch
- Rods with flat end
- Ratchet stop

DEPTH MICROMETER



3241-4



Base: H x W=3.996 x .669"

Part No.	Range	Rods
3241-1	0-1"	1pc
3241-2	0-2"	2pcs
3241-3	0-3"	3pcs
3241-4	0-4"	4pcs
3241-6	0-6"	6pcs
3241-8	0-8"	8pcs
3241-12	0-12"	12pcs

- Graduation: .001"
- Micrometer head accuracy: ± 0.00012 "
- Rod accuracy: $\pm [0.001 + 0.0005(L/3)]$ ",
L is the measuring range in inch
- Rods with flat end
- Ratchet stop

Base: H x W=2.480 x .669"

Part No.	Range	Rods
3241-B1	0-1"	1pc
3241-B4	0-4"	4pcs

NON-ROTATING SPINDLE ELECTRONIC MICROMETER

- Resolution: .00005"/0.001mm
- Repeatability: .00005"
- Measuring force: 5-10N
- Non-rotating spindle, suitable for cylinders
- Quick measurement: one turn of sleeve or ratchet stop makes .039" spindle feed
- Carbide measuring faces
- Ratchet stop
- Data output
- Button function: inch/mm, max./min. value tracking, tolerance measurement, hold, on/off, ze
- CR2032 battery, automatic power off
- Supplied with setting standards (except 0-1"/0-25mm)



QUICK MEASUREMENT
ONE TURN OF SLEEVE OR RATCHET STOP
MAKES .039" SPINDLE FEED

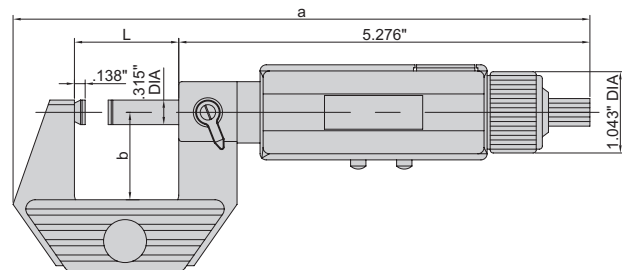
NON-ROTATING
SPINDLE

DATA
OUTPUT



3631-25

Part No.	Range	Accuracy	L	a	b
3631-25	0-1"/0-25mm	±.00008"	1.339"	7.402"	1.122"
3631-50	1-2"/25-50mm	±.00008"	2.323"	8.307"	1.181"
3631-75	2-3"/50-75mm	±.00012"	3.307"	9.449"	1.732"
3631-100	3-4"/75-100mm	±.00012"	4.291"	10.394"	2.205"
3631-125	4-5"/100-125mm	±.00012"	5.276"	11.378"	2.992"
3631-150	5-6"/125-150mm	±.00012"	6.299"	12.362"	3.504"



NON-ROTATING SPINDLE ELECTRONIC MICROMETER

- Resolution: .00005"/0.001mm
- Repeatability: .00005"
- Measuring force: 5-10N
- Lever device suitable for mass production
- Non-rotating spindle, suitable for cylinders
- Quick measurement: one turn of sleeve or ratchet stop makes .039" spindle feed
- Carbide measuring faces
- Ratchet stop
- Data output
- Button function: inch/mm, max./min. value tracking, tolerance measurement, hold, on/off, zero
- CR2032 battery, automatic power off



LEVER DEVICE SUITABLE FOR
MASS PRODUCTION

QUICK MEASUREMENT
ONE TURN OF SLEEVE OR RATCHET STOP
MAKES .039" SPINDLE FEED

NON-ROTATING
SPINDLE

DATA
OUTPUT



3632-25

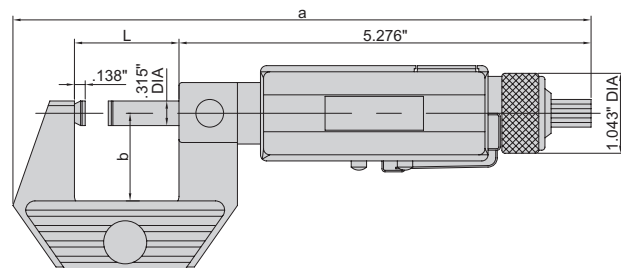
lever device

Press lever device to retract the spindle .059" (max.).
Loose lever device to release the spindle to contact workpiece,
measuring force is constant.

retracting stroke .059" (max.)



Part No.	Range	Accuracy	L	a	b
3632-25	0-1"/0-25mm	±.00008"	1.339"	7.402"	1.122"



DATA
OUTPUT

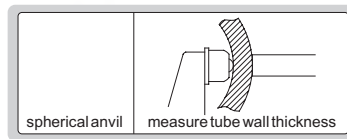
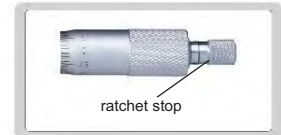
IP65
WATERPROOF

ELECTRONIC OUTSIDE MICROMETER



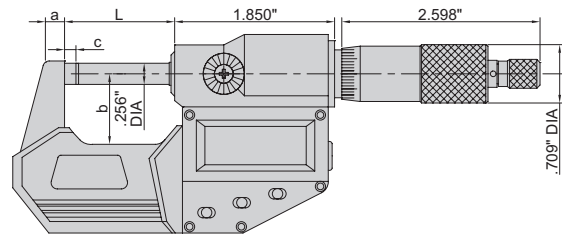
3101-25E

- Resolution: .00005"/0.001mm (resolution of 3101-275E and 3101-300E is .0001"/0.001mm)
- IP65 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)



Individual (ratchet stop type)

Part No.	Range	Accuracy	L	a	b	c
3101-25E*	0-1"/0-25mm	±.00008"	1.280"	.236"	.945"	.118"
3101-50E*	1-2"/25-50mm	±.00008"	2.264"	.315"	1.260"	.118"
3101-75E*	2-3"/50-75mm	±.00012"	3.248"	.315"	1.752"	.118"
3101-100E*	3-4"/75-100mm	±.00012"	4.232"	.315"	2.244"	.118"
3101-125E	4-5"/100-125mm	±.00012"	5.236"	.394"	2.756"	.118"
3101-150E	5-6"/125-150mm	±.00012"	6.240"	.394"	3.228"	.118"
3101-175E	6-7"/150-175mm	±.00016"	7.244"	.472"	3.720"	.217"
3101-200E	7-8"/175-200mm	±.00016"	8.248"	.472"	4.213"	.217"
3101-225E	8-9"/200-225mm	±.00016"	9.213"	.764"	5.098"	.217"
3101-250E	9-10"/225-250mm	±.00016"	10.217"	.764"	5.610"	.217"
3101-275E	10-11"/250-275mm	±.00020"	11.220"	.764"	6.102"	.217"
3101-300E	11-12"/275-300mm	±.00020"	12.224"	.764"	6.594"	.217"



Set (ratchet stop type)

Part No.	Range	Micrometers Included
3101-44E*	0-4"/0-100mm	3101-25E, 3101-50E, 3101-75E, 3101-100E
3101-66E	0-6"/0-150mm	3101-25E, 3101-50E, 3101-75E, 3101-100E, 3101-125E, 3101-150E

Individual (ratchet friction thimble type)

Part No.	Range	Accuracy	L	a	b	c
3101-25FE*	0-1"/0-25mm	±.00008"	1.280"	.236"	.945"	.118"

* Supplied with manufacturer inspection certificate traceable to NIST

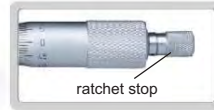
INSIZE		Inspection Certificate	
Product name	Outside Micrometer	Unit: inch	
Code No.	3203-1A	Measuring Length	Permissible Error
Measuring range	0-1"	0.000	0.0000
Graduation	0.0001"	0.210	0.0001
Serial No.	0910120004	0.420	-0.0001
Standard temperature	68 °F	0.605	0.0000
Based on	ASME B89.1.13-2013	0.815	-0.0001
Traceable to	USA NIST No.821/279484-10	1.000	0.0001
Inspector	<i>Paulo</i>	Judgement:	Passed

**MANUFACTURER INSPECTION
CERTIFICATE TRACEABLE
TO NIST, FOR MICROMETERS**

ELECTRONIC OUTSIDE MICROMETER

**IP54
WATERPROOF**

**ATTENTION:
NO DATA OUTPUT**



3108-1

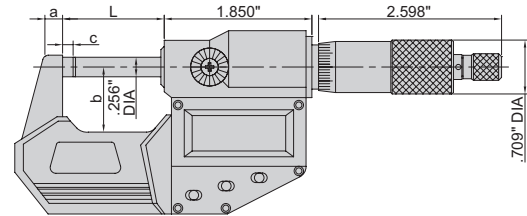
Ratchet stop type

Part No.	Range	Accuracy	L	a	b	c
3108-1*	0-1"	±.00008"	1.280"	.236"	.945"	.118"
3108-2*	1-2"	±.00008"	2.264"	.315"	1.260"	.118"
3108-3*	2-3"	±.00012"	3.248"	.315"	1.752"	.118"
3108-4*	3-4"	±.00012"	4.232"	.315"	2.244"	.118"
3108-5	4-5"	±.00012"	5.236"	.394"	2.756"	.118"
3108-6	5-6"	±.00012"	6.240"	.394"	3.228"	.118"
3108-7	6-7"	±.00016"	7.244"	.472"	3.720"	.217"
3108-8	7-8"	±.00016"	8.248"	.472"	4.213"	.217"

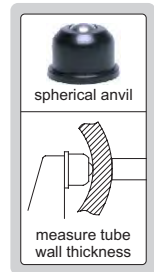
Ratchet friction thimble type

Part No.	Range	Accuracy	L	a	b	c
3108-1F*	0-1"	±.00008"	1.280"	.236"	.945"	.118"

* Supplied with manufacturer inspection certificate traceable to NIST



- Resolution: .00005"
- IP54 dust/waterproof
- Button function: on/off, set, ABS/INC
- Without data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-1")

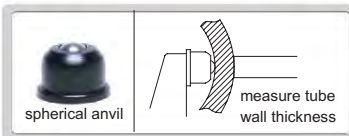
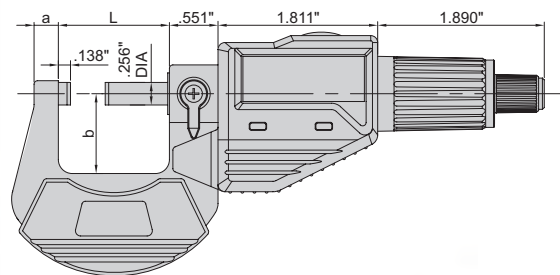


ELECTRONIC OUTSIDE MICROMETER

**DATA
OUTPUT**



3109-25B



Part No.	Range	Accuracy	L	a	b
3109-25B *	0-1"/0-25mm	±.00008"	1.240"	.276"	.906"
3109-50BE *	1-2"/25-50mm	±.00008"	2.244"	.343"	1.260"
3109-75BE *	2-3"/50-75mm	±.00012"	3.248"	.295"	1.732"
3109-100BE *	3-4"/75-100mm	±.00012"	4.193"	.323"	2.205"

* Supplied with manufacturer inspection certificate traceable to NIST

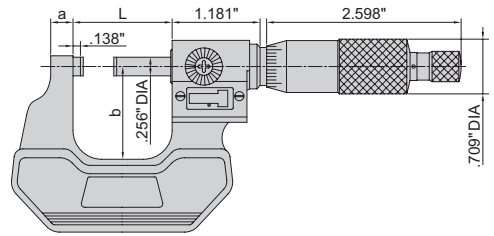
- Resolution: .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- Battery CR2032, automatic power off
- Carbide measuring faces
- Ratchet friction thimble
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)
- Optional accessory: data output system



OUTSIDE MICROMETER WITH COUNTER



3400-1



Part No.	Range	Accuracy	L	a	b
3400-1*	0-1"	.00016"	1.260"	.236"	1.024"
3400-2*	1-2"	.00016"	2.244"	.315"	1.260"
3400-3*	2-3"	.00020"	3.228"	.315"	1.752"
3400-4*	3-4"	.00020"	4.213"	.315"	2.244"

* Supplied with manufacturer inspection certificate traceable to NIST

- Counter resolution: .001"
- Thimble graduation: .0001"
- Carbide measuring faces
- Ratchet stop
- Supplied with setting standards (except 0-1")

OUTSIDE MICROMETER FOR LEFT AND RIGHT HAND

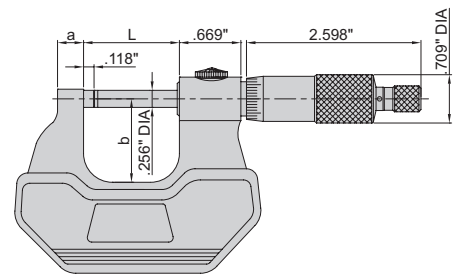


front



back

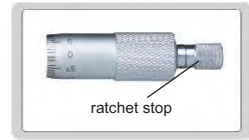
3236-1B



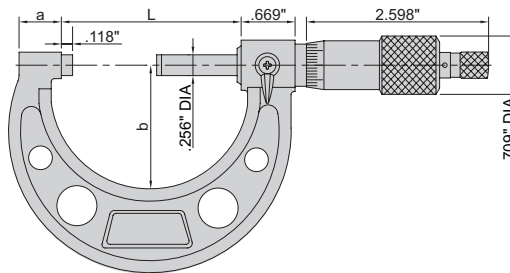
Part No.	Range	Accuracy	L	a	b
3236-1B	0-1"	.00016"	1.260"	.236"	.945"
3236-2B	1-2"	.00016"	2.244"	.315"	1.260"

- Graduation: .001"
- Graduations on two sides
- Carbide measuring faces
- Ratchet stop
- Supplied with setting standards (except 0-1")

OUTSIDE MICROMETER



3203-2A



- Graduation: imperial .0001"
metric 0.01mm
- Carbide measuring faces
- Supplied with setting standards (except 0-1" and 0-25mm)

Imperial (ratchet stop type)

Part No.	Range	Accuracy	L	a	b
3203-1A *	0-1"	.00016"	1.260"	.354"	1.102"
3203-2A *	1-2"	.00016"	2.244"	.551"	1.496"
3203-3A *	2-3"	.00020"	3.228"	.591"	1.929"
3203-4A *	3-4"	.00020"	4.213"	.591"	2.362"
3203-5A *	4-5"	.00024"	5.236"	.650"	2.874"
3203-6A *	5-6"	.00024"	6.220"	.650"	3.346"
3203-7A	6-7"	.00028"	7.205"	.764"	4.094"
3203-8A	7-8"	.00028"	8.228"	.764"	4.606"
3203-9A	8-9"	.00031"	9.213"	.764"	5.118"
3203-10A	9-10"	.00031"	10.236"	.764"	5.591"
3203-11A	10-11"	.00035"	11.220"	.764"	6.102"
3203-12A	11-12"	.00035"	12.205"	.764"	6.614"

Imperial micrometer set (ratchet stop type)

Part No.	Range	Micrometers Included
3203-33A *	0-3"	3203-1A, 3203-2A, 3203-3A
3203-44A *	0-4"	3203-1A, 3203-2A, 3203-3A, 3203-4A
3203-66A *	0-6"	3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A
3203-126A	6-12"	3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A
3203-1212A	0-12"	3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A, 3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A

Imperial (ratchet friction thimble type)

Part No.	Range	Accuracy	L	a	b
3203-1FA *	0-1"	.00016"	1.260"	.354"	1.102"
3203-2FA *	1-2"	.00016"	2.244"	.551"	1.496"

Metric (ratchet stop type)

Part No.	Range	Accuracy	L	a	b
3203-25A *	0-25mm	4µm	32mm	9mm	28mm
3203-50A *	25-50mm	4µm	57mm	14mm	38mm
3203-75A *	50-75mm	5µm	82mm	15mm	49mm
3203-100A *	75-100mm	5µm	107mm	15mm	60mm
3203-125A	100-125mm	6µm	133mm	16.5mm	73mm
3203-150A	125-150mm	6µm	158mm	16.5mm	85mm
3203-175A	150-175mm	7µm	183mm	19.4mm	104mm
3203-200A	175-200mm	7µm	209mm	19.4mm	117mm
3203-225A	200-225mm	8µm	234mm	19.4mm	130mm
3203-250A	225-250mm	8µm	260mm	19.4mm	142mm
3203-275A	250-275mm	9µm	285mm	19.4mm	155mm
3203-300A	275-300mm	9µm	310mm	19.4mm	168mm

Metric micrometer set (ratchet stop type)

Part No.	Range	Micrometers Included
3203-753A *	0-75mm	3203-25A, 3203-50A, 3203-75A
3203-1004A *	0-100mm	3203-25A, 3203-50A, 3203-75A, 3203-100A
3203-1506A	0-150mm	3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A
3203-3006A	150-300mm	3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A
3203-3012A	0-300mm	3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A, 3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A

* Supplied with manufacturer inspection certificate traceable to NIST

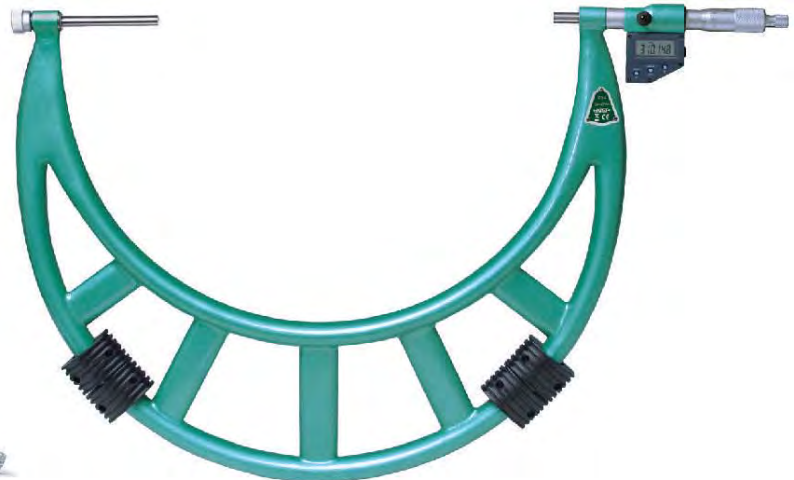
ELECTRONIC OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

IP54
WATERPROOF

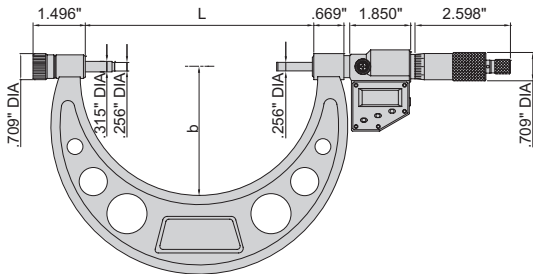
DATA
OUTPUT



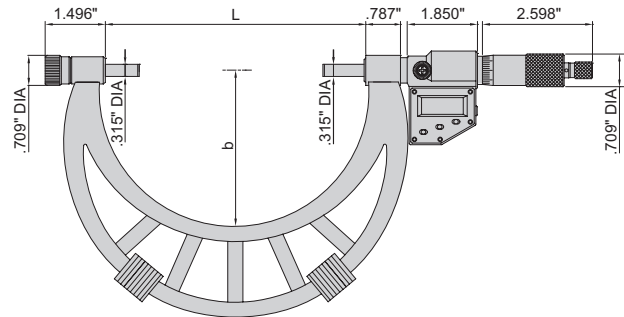
3506-100E



3506-400E



type A



type B

- Resolution: .0001"/0.001mm (resolution of **3506-100E** and **3506-150E** is .00005"/0.001mm)
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output system (part no. **7306-30**, **7302-SPC2A**, **7305-SPC3**)

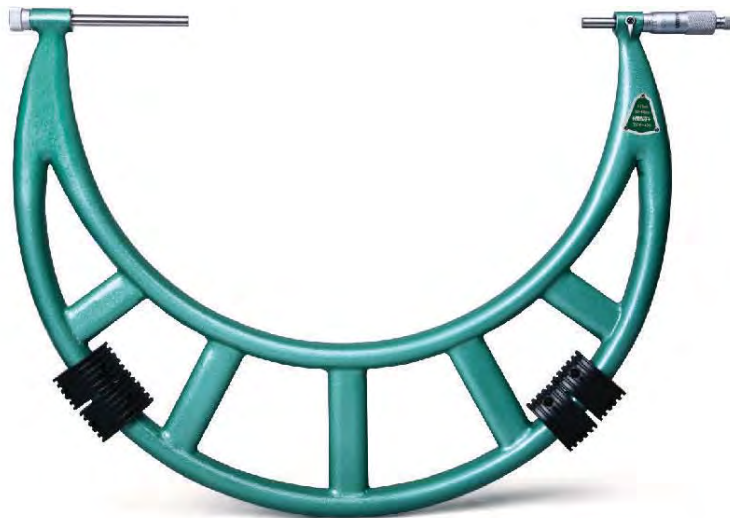


Part No.	Range	Type	Accuracy	L	b
3506-100E	0-4"/0-100mm	A	±.00020"	4.134"	2.244"
3506-150E	0-6"/0-150mm	A	±.00024"	6.102"	3.228"
3506-300E	6-12"/150-300mm	A	±.00031"	12.008"	6.496"
3506-301E	8-12"/200-300mm	A	±.00031"	12.008"	6.496"
3506-400E	12-16"/300-400mm	B	±.00035"	15.945"	8.819"
3506-500E	16-20"/400-500mm	B	±.00043"	19.882"	10.827"
3506-600E	20-24"/500-600mm	B	±.00047"	23.819"	12.638"
3506-700E	24-28"/600-700mm	B	±.00051"	27.756"	14.606"
3506-800E	28-32"/700-800mm	B	±.00059"	31.693"	16.772"
3506-900E	32-36"/800-900mm	B	±.00063"	35.630"	18.740"
3506-1000E	36-40"/900-1000mm	B	±.00067"	39.567"	22.677"

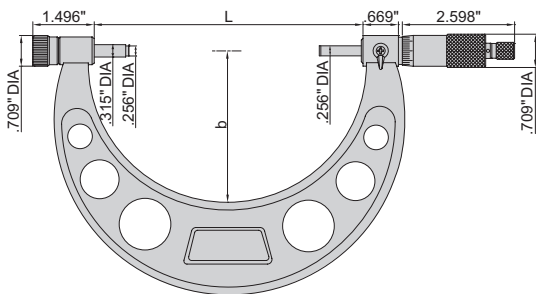
OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS



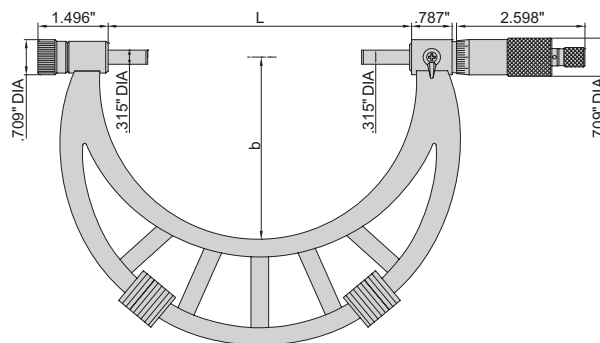
3206-6



3206-16

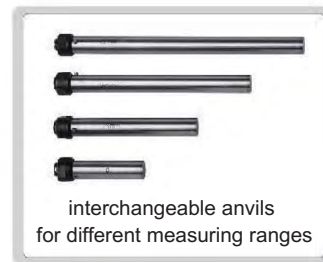


type A



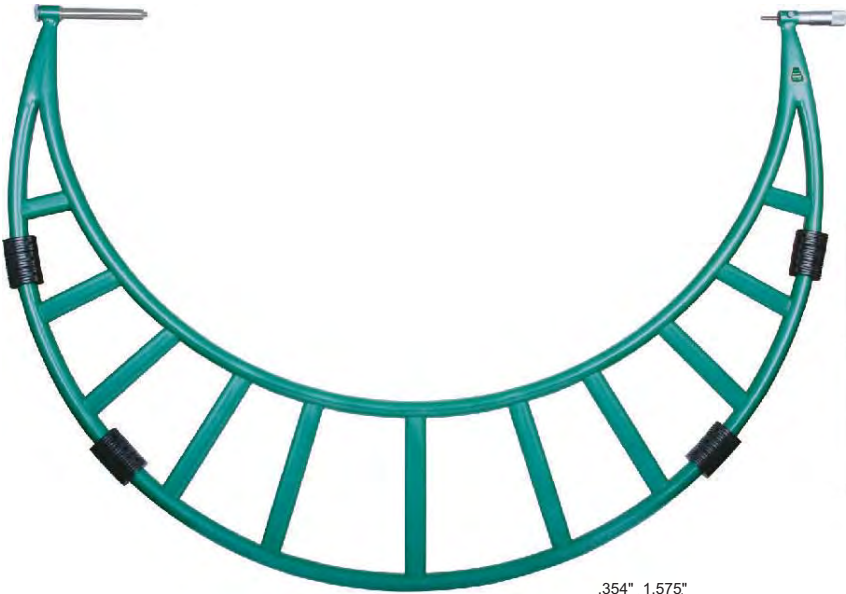
type B

Part No.	Range	Type	Accuracy	L	b
3206-2	0-2"	A	.00016"	2.283"	1.378"
3206-4	0-4"	A	.00020"	4.252"	2.244"
3206-6	0-6"	A	.00024"	6.220"	3.228"
3206-61	2-6"	A	.00024"	6.220"	3.228"
3206-8	4-8"	A	.00028"	8.189"	4.488"
3206-12	6-12"	A	.00035"	12.126"	6.496"
3206-121	8-12"	A	.00035"	12.126"	6.496"
3206-16	12-16"	B	.00043"	16.102"	8.819"
3206-20	16-20"	B	.00051"	20.039"	10.827"
3206-24	20-24"	B	.00055"	23.976"	12.638"
3206-28	24-28"	B	.00063"	27.913"	14.606"
3206-32	28-32"	B	.00071"	31.850"	16.772"
3206-36	32-36"	B	.00079"	35.787"	18.740"
3206-40	36-40"	B	.00087"	39.724"	22.677"



- Graduation: .0001" (within 12")
.001" (over 12")
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

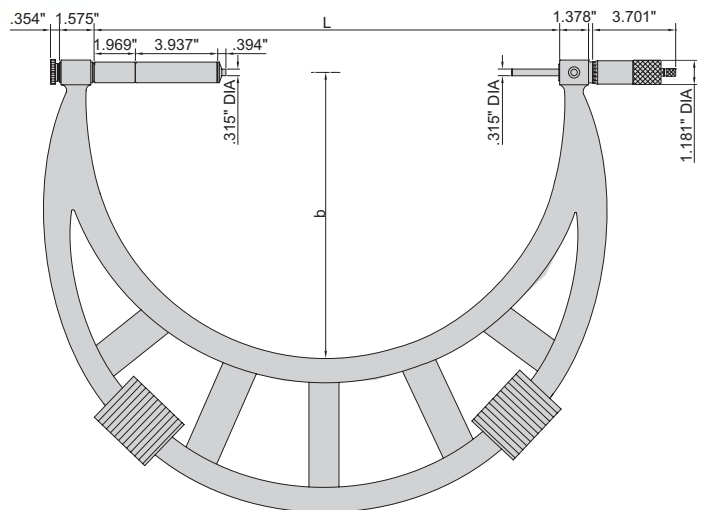
OUTSIDE MICROMETER WITH EXTENSION ANVIL COLLAR



adjust collars for different measuring ranges

3205-56

- Graduation .0005"
- Adjust collars for different measuring ranges
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



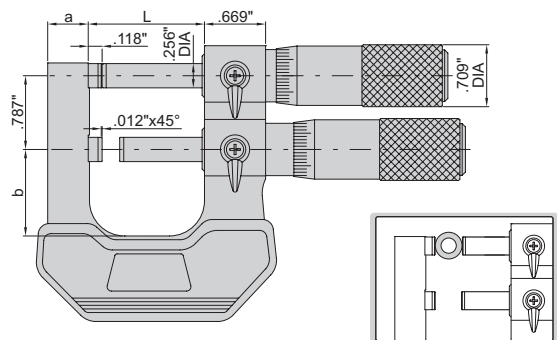
Part No.	Range	Accuracy	L	b
3205-48	40-48"	.00087"	47.638"	25.394"
3205-56	48-56"	.00094"	55.512"	29.331"
3205-64	56-64"	.00110"	63.386"	33.268"
3205-72	64-72"	.00122"	71.260"	37.205"
3205-80	72-80"	.00134"	79.134"	41.142"



3235-1

Part No.	Range	Accuracy	L	a	b
3235-1	0-1"	.00016"	1.260"	.472"	.945"
3235-2	1-2"	.00016"	2.244"	.591"	1.260"

LIMIT MICROMETER



- Used as Go/No-Go gage by setting upper and lower limits
- Graduation .0001"
- Carbide measuring faces
- Supplied with setting standard (except 0-1")

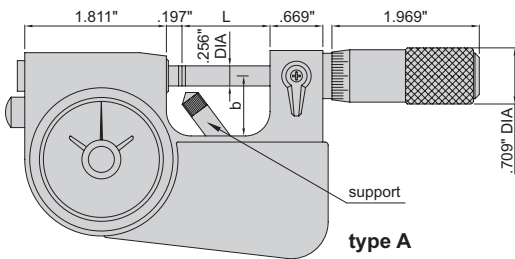
INDICATING MICROMETER



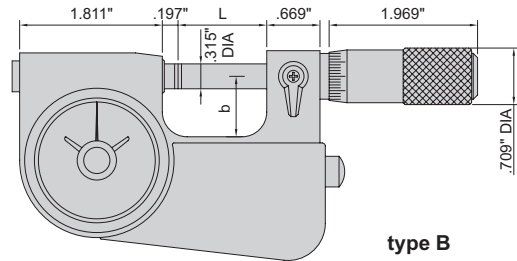
3332-1



3332-1B



type A



type B

Part No.	Micrometer head range	Micrometer head accuracy	Type	L	b	Remark
3332-1	0-1"	.00016"	A	1.122"	.748"	with support
3332-2	1-2"	.00016"	A	2.106"	1.181"	with support
3332-1B	0-1"	.00016"	B	1.122"	.748"	without support

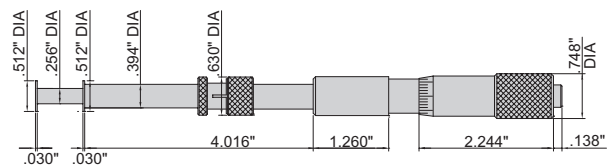
- Micrometer head graduation: .0001"
- Dial indicator: range ± 0.0015 ", graduation .00005", accuracy .00005"
- Carbide measuring faces
- Supplied with setting standards (except 0-1")

GROOVE MICROMETER

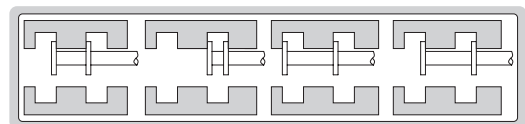


3287-1

- Graduation .001"
- Measure width of grooves inside bores
- Non-rotating spindle
- Two graduations for inside and outside measurement



Part No.	Range (outside)	Range (inside)	Accuracy
3287-1	0-1"	.06-1.05"	.00039"
3287-2	1-2"	1.05-2.05"	.00039"
3287-3	2-3"	2.05-3.05"	.00039"
3287-4	3-4"	3.05-4.05"	.00039"

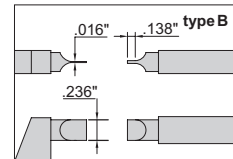
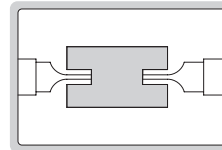
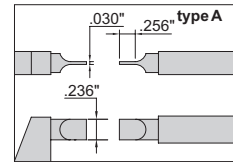
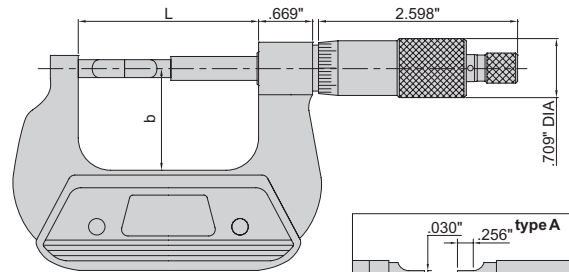




NON-ROTATING
SPINDLE

3232-1

BLADE MICROMETER



Part No.	Range	Type	Accuracy	L	b
3232-1	0-1"	A	.00016"	2.244"	1.260"
3232-2	1-2"	A	.00016"	3.228"	1.752"
3232-3	2-3"	A	.00020"	4.213"	2.244"
3232-4	3-4"	A	.00020"	5.220"	2.736"
3232-5	4-5"	A	.00024"	6.220"	3.228"
3232-6	5-6"	A	.00024"	7.220"	3.720"
3232-7	6-7"	A	.00028"	8.220"	4.213"
3232-1B	0-1"	B	.00016"	2.244"	1.260"
3232-2B	1-2"	B	.00016"	3.228"	1.752"

- Measure the groove diameter of shafts and keyways
- Graduation .0001"
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-1")

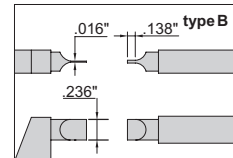
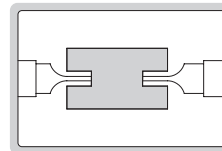
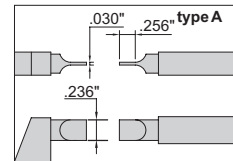
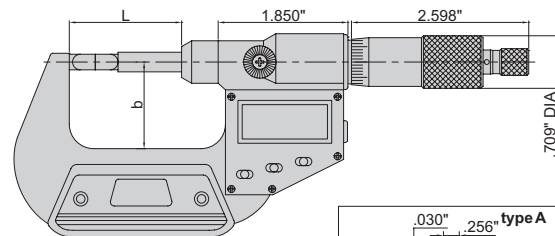
DATA
OUTPUT

NON-ROTATING
SPINDLE



3532-25E

ELECTRONIC BLADE MICROMETER



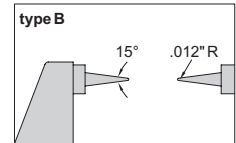
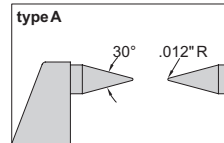
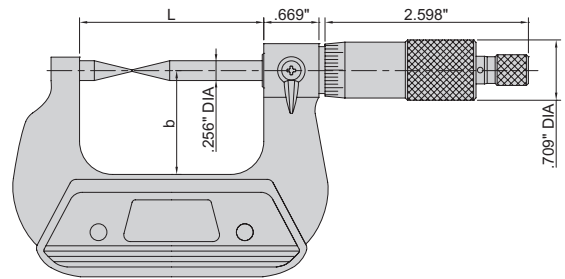
- Measure the groove diameter of shafts and keyways
- Resolution .00005"/0.001mm
- Non-rotating spindle
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-1"/0-25mm)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

Part No.	Range	Type	Accuracy	L	b
3532-25E	0-1"/0-25mm	A	±.00016"	2.244"	1.260"
3532-50E	1-2"/25-50mm	A	±.00016"	3.228"	1.752"
3532-75E	2-3"/50-75mm	A	±.00020"	4.213"	2.244"
3532-100E	3-4"/75-100mm	A	±.00020"	5.220"	2.736"
3532-25BE	0-1"/0-25mm	B	±.00016"	2.244"	1.260"

POINT MICROMETER



3230-1



Part No.	Range	Type	Accuracy	L	b
3230-1	0-1"	A	.00016"	2.244"	1.260"
3230-2	1-2"	A	.00016"	3.228"	1.752"
3230-3	2-3"	A	.00020"	4.213"	2.244"
3230-4	3-4"	A	.00020"	5.220"	2.736"
3230-1B	0-1"	B	.00016"	2.244"	1.260"

- Measure the web thickness of drills, small grooves and keyways
- Graduation .0001"
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-1")

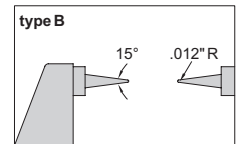
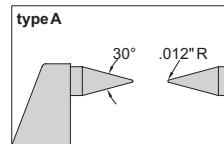
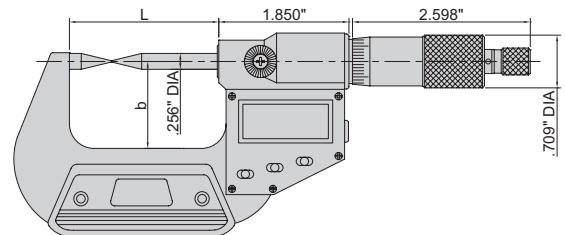
ELECTRONIC POINT MICROMETER

IP54
WATERPROOF

DATA
OUTPUT



3530-25E



Part No.	Range	Type	Accuracy	L	b
3530-25E	0-1"/0-25mm	A	±.00016"	2.244"	1.260"
3530-25BE	0-1"/0-25mm	B	±.00016"	2.244"	1.260"
3530-50BE	1-2"/25-50mm	B	±.00016"	3.228"	1.752"

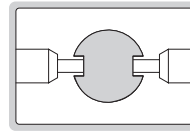
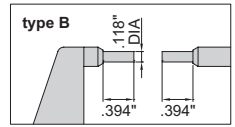
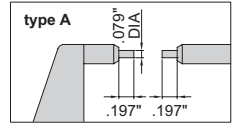
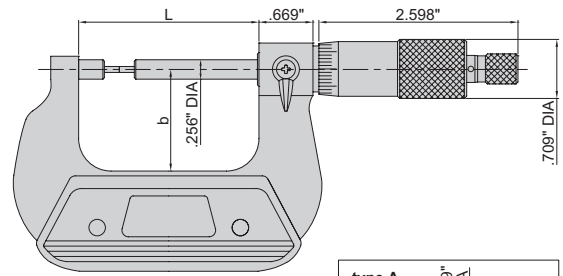
- Measure the web thickness of drills, small grooves and keyways
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-1"/0-25mm)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)



3233-1

Part No.	Range	Type	Accuracy	L	b
3233-1	0-1"	A	.00016"	2.244"	1.260"
3233-1B	0-1"	B	.00016"	2.244"	1.260"
3233-2B	1-2"	B	.00016"	3.228"	1.752"
3233-3B	2-3"	B	.00020"	4.213"	2.244"
3233-4B	3-4"	B	.00020"	5.220"	2.736"
3233-5B	4-5"	B	.00024"	6.220"	3.228"
3233-6B	5-6"	B	.00024"	7.220"	3.720"
3233-7B	6-7"	B	.00028"	8.220"	4.213"

SPLINE MICROMETER



- Measure splined shafts, slots and keyways
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")

IP54
WATERPROOF

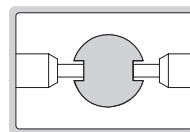
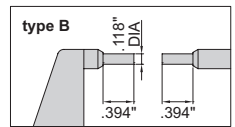
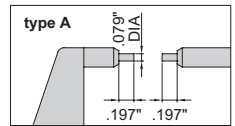
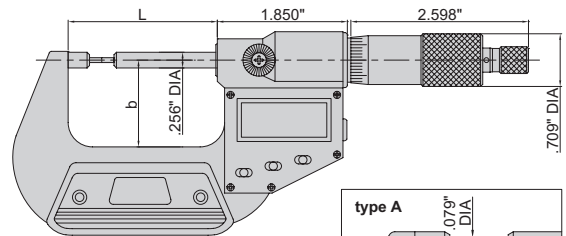
DATA
OUTPUT



3533-25E

Part No.	Range	Type	Accuracy	L	b
3533-25E	0-1"/0-25mm	A	±.00016"	2.244"	1.260"
3533-25BE	0-1"/0-25mm	B	±.00016"	2.244"	1.260"
3533-50BE	1-2"/25-50mm	B	±.00016"	3.228"	1.752"

ELECTRONIC SPLINE MICROMETER



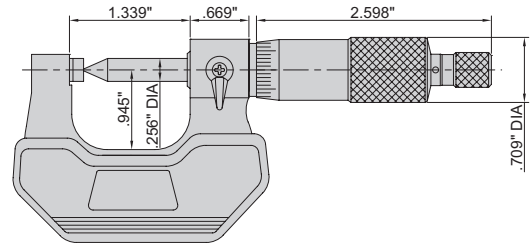
- Measure splined shafts, slots and keyways
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1"/0-25mm)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

CRIMP HEIGHT MICROMETER

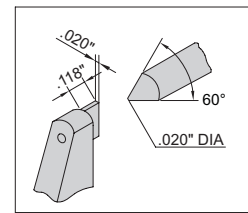
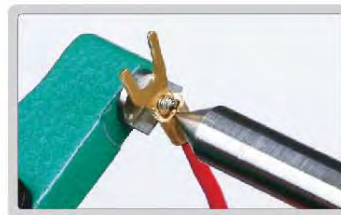
RELATIVE PRODUCT:
ELECTRONIC CRIMP HEIGHT CALIPER
(PART NO. 1165-150A)



3266-1B



- Measure the height of crimp contact
- Graduation .0001"
- Ratchet stop



Part No.	Range	Accuracy
3266-1B	0-1"	.00016"

ELECTRONIC CRIMP HEIGHT MICROMETER

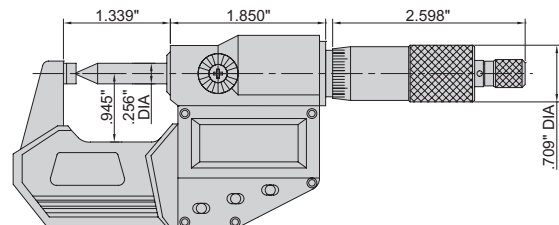
RELATIVE PRODUCT:
ELECTRONIC CRIMP HEIGHT CALIPER
(PART NO. 1165-150A)

IP54
WATERPROOF

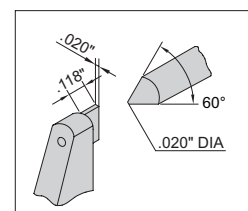
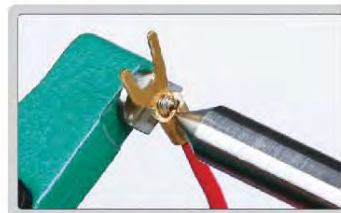
DATA
OUTPUT



3566-25BE



- Measure the height of crimp contact
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

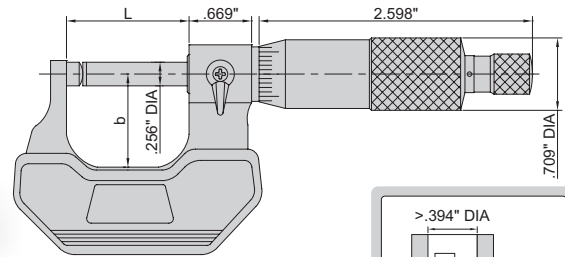


Part No.	Range	Accuracy
3566-25BE	0-1"/0-25mm	±.00016"

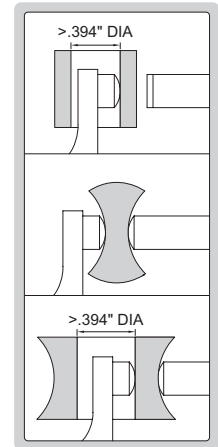
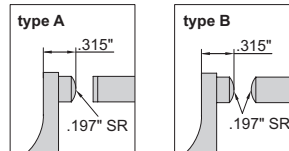
SPHERICAL ANVIL TUBE MICROMETER



3260-1



Part No.	Range	Type	Accuracy	L	b
3260-1	0-1"	A	.00016"	1.260"	.945"
3260-2	1-2"	A	.00016"	2.244"	1.260"
3260-3	2-3"	A	.00020"	3.228"	1.752"
3260-4	3-4"	A	.00020"	4.213"	2.244"
3260-1S	0-1"	B	.00016"	1.260"	.945"
3260-2S	1-2"	B	.00016"	2.244"	1.260"
3260-3S	2-3"	B	.00020"	3.228"	1.752"
3260-4S	3-4"	B	.00020"	4.213"	2.244"



- Measure wall thickness of tubes
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")

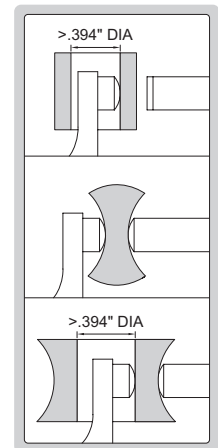
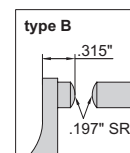
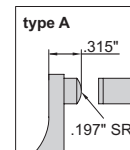
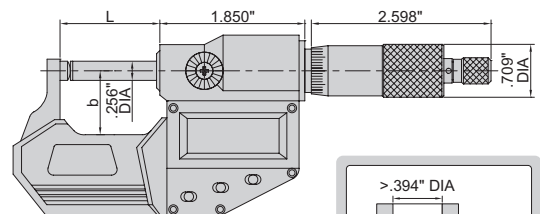
DATA
OUTPUT

IP54
WATERPROOF

ELECTRONIC SPHERICAL ANVIL TUBE MICROMETER



3560-25E



- Measure wall thickness of tubes
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1"/0-25mm)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

Part No.	Range	Type	Accuracy	L	b
3560-25E	0-1"/0-25mm	A	±.00016"	1.260"	.945"
3560-50E	1-2"/25-50mm	A	±.00016"	2.244"	1.260"
3560-25SE	0-1"/0-25mm	B	±.00016"	1.260"	.945"
3560-50SE	1-2"/25-50mm	B	±.00016"	2.244"	1.260"

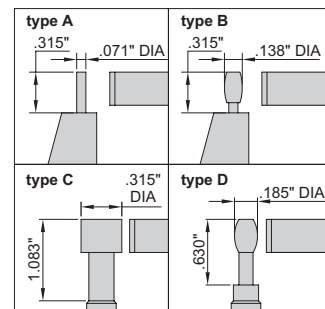
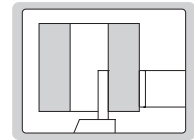
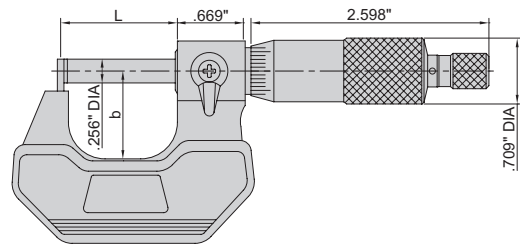
CYLINDRICAL ANVIL TUBE MICROMETER



3261-1

- Measure wall thickness of tubes
- Graduation .0001"
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-1")

Part No.	Range	Type	Accuracy	L	b
3261-1	0-1"	A	.00024"	1.220"	.945"
3261-2	1-2"	A	.00024"	2.244"	1.260"
3261-1B	0-1"	B	.00024"	1.220"	.945"
3261-2B	1-2"	B	.00024"	2.244"	1.260"
3261-1C	0-1"	C	.00024"	1.220"	.945"
3261-1D	0-1"	D	.00024"	1.220"	.945"



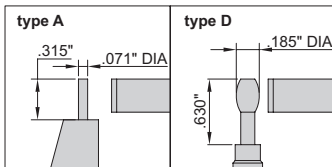
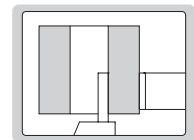
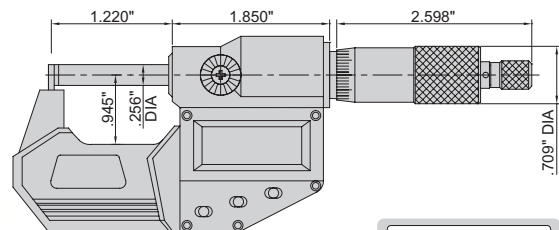
ELECTRONIC CYLINDRICAL ANVIL TUBE MICROMETER

DATA
OUTPUT

IP54
WATERPROOF



3561-25E



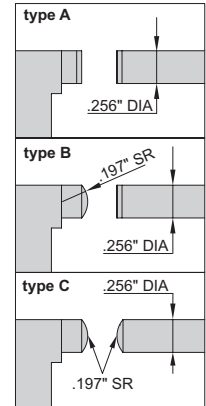
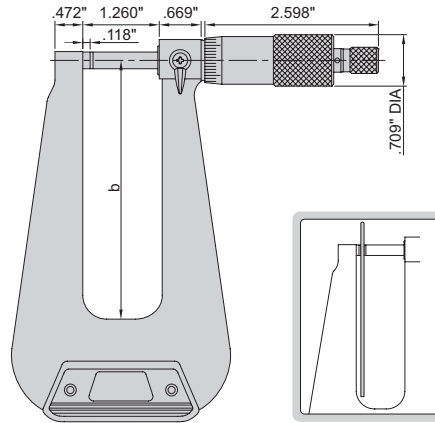
Part No.	Range	Type	Accuracy
3561-25E	0-1"/0-25mm	A	±.00024"
3561-25DE	0-1"/0-25mm	D	±.00024"

- Measure wall thickness of tubes
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide spindle tip
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

SHEET METAL MICROMETER



3239-13



Part No.	Range	Type	Accuracy	b
3239-13	0-1"	A	.00020"	6.102"
3239-13F	0-1"	B	.00020"	6.102"
3239-14F	0-1"	B	.00024"	12.205"
3239-13S	0-1"	C	.00020"	6.102"

- Deep frame suitable for sheet metal, paper and plastic
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces

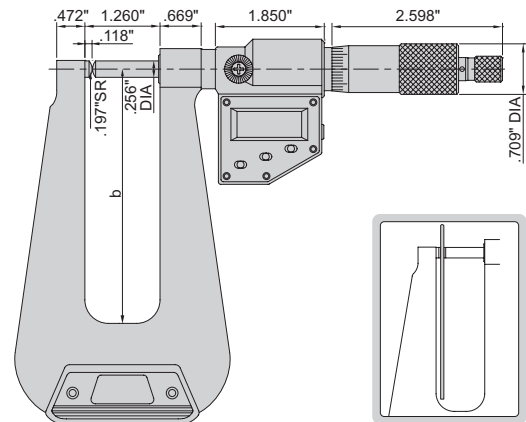
DATA
OUTPUT

IP54
WATERPROOF

ELECTRONIC SHEET METAL MICROMETER



3539-253SE



Part No.	Range	Accuracy	b
3539-253SE	0-1"/0-25mm	±.00020"	6.102"

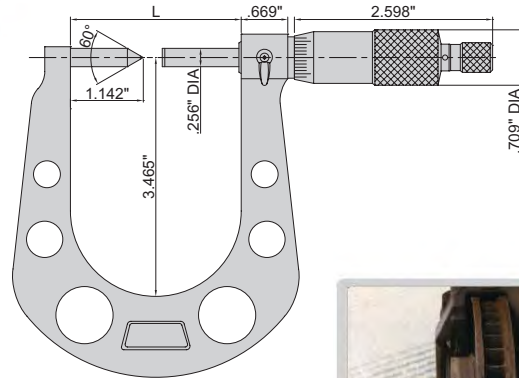
- Deep frame suitable for sheet metal, paper and plastic
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

DISK BRAKE MICROMETER

RELATIVE PRODUCT:
ELECTRONIC DISK BRAKE AND PAD CALIPER
ELECTRONIC DRUM BRAKE CALIPER
(PART NO. 1162-150A, 1167-150A, 1168-300A)



3288-1



Part No.	Range	Accuracy	L
3288-1	.3-1.3"	.00020"	2.539"
3288-2	1-2"	.00020"	3.228"

- Measure thickness of disk brakes
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

ELECTRONIC DISK BRAKE MICROMETER

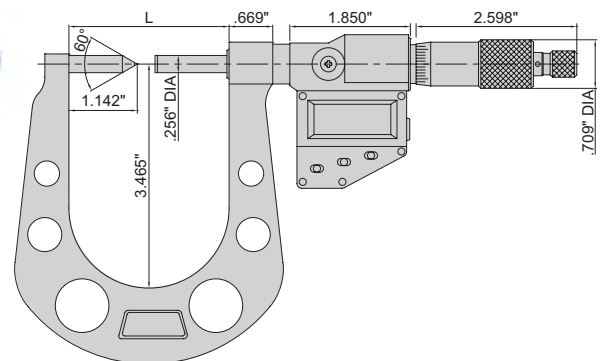
DATA
OUTPUT

IP54
WATERPROOF

RELATIVE PRODUCT:
ELECTRONIC DISK BRAKE AND PAD CALIPER
ELECTRONIC DRUM BRAKE CALIPER
(PART NO. 1162-150A, 1167-150A, 1168-300A)



3588-33E



Part No.	Range	Accuracy	L
3588-33E	.3-1.3"/7.6-33mm	±.00020"	2.539"
3588-50E	1-2"/25-50mm	±.00020"	3.228"

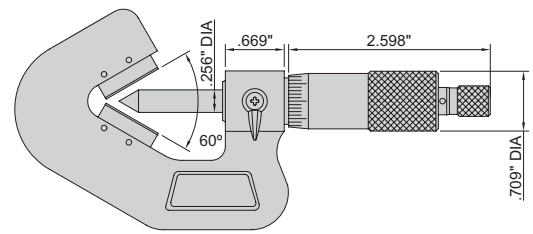
- Measure thickness of disk brakes
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output system
(part no. 7306-30, 7302-SPC2A, 7305-SPC3)

V-ANVIL MICROMETER

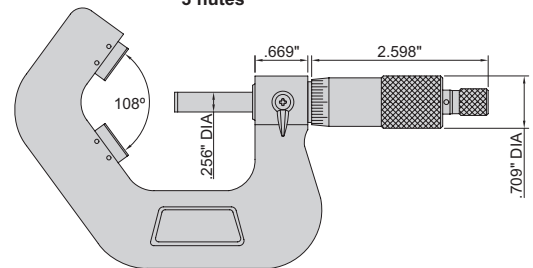


3290-063

Part No.	Range	Flutes	Accuracy
3290-063	.04-.6"	3	.00016"
3290-083	.2-.8"	3	.00016"
3290-143	.8"-1.4"	3	.00020"
3290-203	1.4-2"	3	.00020"
3290-263	2-2.6"	3	.00024"
3290-323	2.6-3.2"	3	.00024"
3290-383	3.2-3.8"	3	.00028"
3290-105	.2-1"	5	.00016"
3290-185	1"-1.8"	5	.00020"
3290-265	1.8-2.6"	5	.00024"
3290-345	2.6-3.4"	5	.00028"



3 flutes



5 flutes

- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 or 5 flutes
- Graduation .001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

ELECTRONIC V-ANVIL MICROMETER

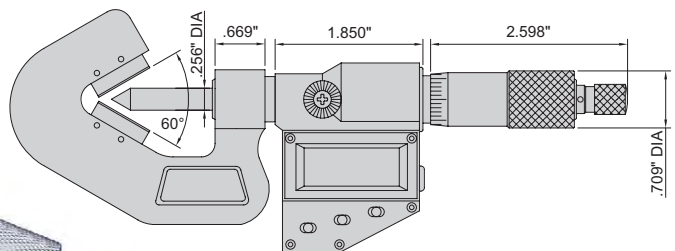
DATA
OUTPUT

IP54
WATERPROOF



3590-153E

Part No.	Range	Flutes	Accuracy
3590-153E	.04-.6"/1-15mm	3	±.00016"
3590-203E	.2-.8"/5-20mm	3	±.00016"
3590-353E	.8-1.4"/20-35mm	3	±.00020"
3590-503E	1.4-2"/35-50mm	3	±.00020"



- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 flutes
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

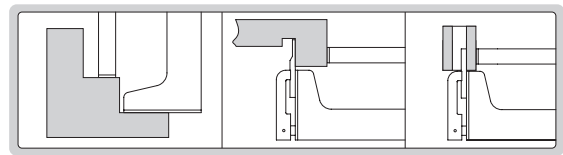
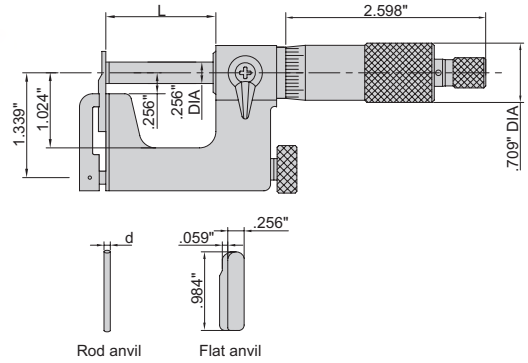
INTERCHANGEABLE ANVIL MICROMETER



3262-2

- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- Graduation .0001"
- Ratchet stop
- Carbide spindle tip
- Setting standards are included (except 0-1")

Part No.	Range	Accuracy	L	d
3262-1	0-1"	.00016"	1.122"	.118" DIA
3262-2	1-2"	.00016"	2.106"	.197" DIA



ELECTRONIC INTERCHANGEABLE ANVIL MICROMETER

DATA
OUTPUT

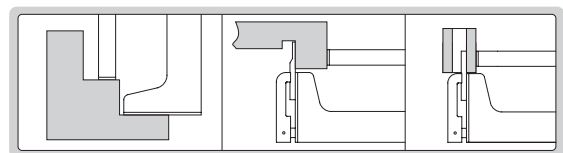
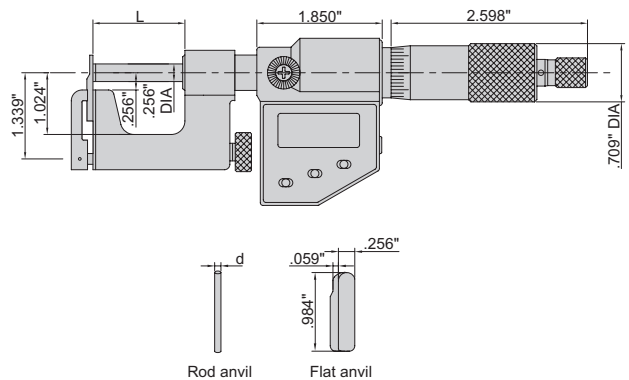
IP54
WATERPROOF



3562-25E

- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide spindle tip
- Setting standards are included (except 0-1"/0-25mm)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

Part No.	Range	Accuracy	L	d
3562-25E	0-1"/0-25mm	±.00016"	1.122"	.118" DIA
3562-50E	1-2"/25-50mm	±.00016"	2.106"	.197" DIA

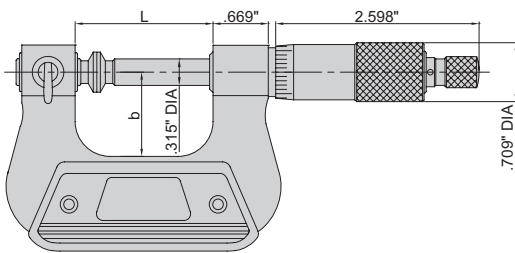


NON-ROTATING
SPINDLE

NON ROTATING SPINDLE UNIVERSAL MICROMETER



3280-1



- Graduation .0001"
- Non-rotating spindle
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Setting standards are included (except 0-1")
- Optional accessory: 55° anvil/spindle tip (part no. 3280-SP1 and 3280-SP2)

Part No.	Range	Accuracy	L	b
3280-1	0-1"	.00016"	1.654"	1.024"
3280-2	1-2"	.00016"	2.638"	1.496"

standard anvil/spindle tip

Flat	.256" DIA	
Spherical	.197" SR .256" DIA	
Spline	.079" DIA	
Disk	.472" DIA	
Blade	.028"	
Knife-edge	.014" and 60° angle	
Point	.012" DIA and 60° angle	

optional 55° anvil/spindle tip

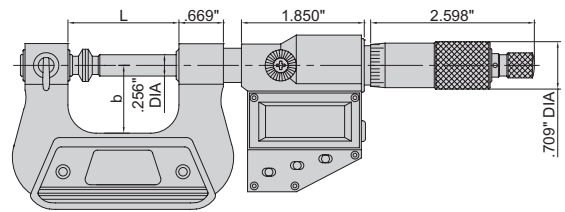
PartNo. 3280-SP1 Knife-edge	.014" and 55° angle	
PartNo. 3280-SP2 Point	.012" DIA and 55° angle	

ELECTRONIC UNIVERSAL MICROMETER

DATA OUTPUT **IP54 WATERPROOF**



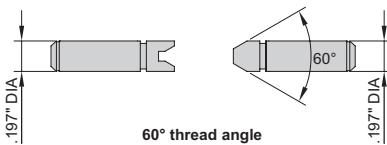
3580-25E



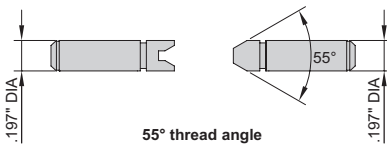
- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip (same as series **3280**, previous page)
- Setting standards are included (except 0-1"/0-25mm)
- Optional accessory: 55° anvil/spindle tip part no. **3280-SP1** and **3280-SP2** (same as series **3280**, previous page), data output system (part no. **7306-30**, **7302-SPC2A**, **7305-SPC3**)

Part No.	Range	Accuracy	L	b
3580-25E	0-1"/0-25mm	±.00016"	1.654"	1.024"
3580-50E	1-2"/25-50mm	±.00016"	2.638"	1.496"

MEASURING TIPS FOR SCREW THREAD MICROMETER



60° thread angle



55° thread angle



7381-T11

Unified and metric thread (60° thread angle)

Part No.	Pitch
7381-T11	64-48TPI/ 0.4-0.5mm
7381-T12	44-28TPI/ 0.6-0.9mm
7381-T13	24-14TPI/ 1-1.75mm
7381-T14	13-9TPI/ 2-3mm
7381-T15	8-5TPI/ 3.5-5mm
7381-T16	4.5-3.5TPI/ 5.5-7mm
7381-TS	6 pairs/set, including all above tips

Whitworth thread (55° thread angle)

Part No.	Pitch
7381-T21	60-48TPI
7381-T22	48-40TPI
7381-T23	40-32TPI
7381-T24	32-24TPI
7381-T25	24-18TPI
7381-T26	18-14TPI
7381-T27	14-10TPI
7381-T28	10-7TPI
7381-T29	7-4.5TPI
7381-T210	4.5-3.5TPI
7381-T2S	10 pairs/set, including all above tips

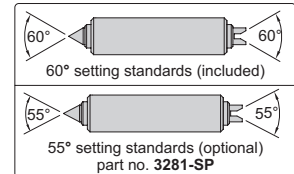
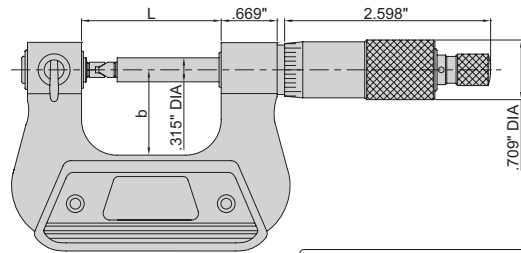
SCREW THREAD MICROMETER

NON-ROTATING SPINDLE

measuring tips are not included



3281-1



Part No.	Range	Micrometer Head Accuracy	Measuring Tips Accuracy	L	b
3281-1	0-1"	.00016"	.00031"	1.654"	1.024"
3281-2	1-2"	.00016"	.00031"	2.638"	1.496"
3281-3	2-3"	.00020"	.00039"	3.622"	1.969"
3281-4	3-4"	.00020"	.00039"	4.630"	2.441"
3281-5	4-5"	.00024"	.00059"	5.630"	2.756"
3281-6	5-6"	.00024"	.00059"	6.622"	3.228"
3281-7	6-7"	.00028"	.00059"	7.559"	3.720"
3281-8	7-8"	.00028"	.00059"	8.543"	4.213"

- Measures pitch diameter of screw threads
- Graduation .001"
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-1")
- Optional accessory: 55° setting standards (part no. **3281-SP**), measuring tips (part no. **7381**, previous page)

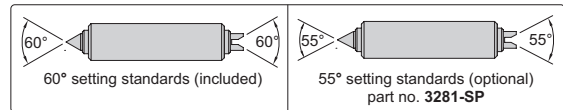
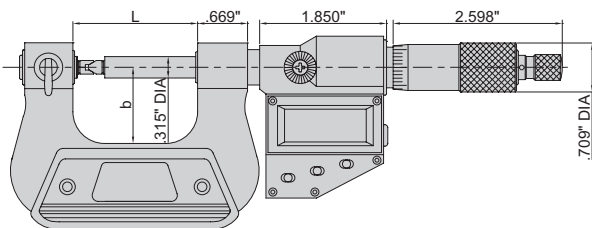
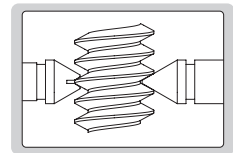
ELECTRONIC SCREW THREAD MICROMETER

DATA OUTPUT NON-ROTATING SPINDLE

measuring tips are not included



3581-25E



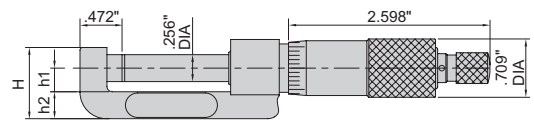
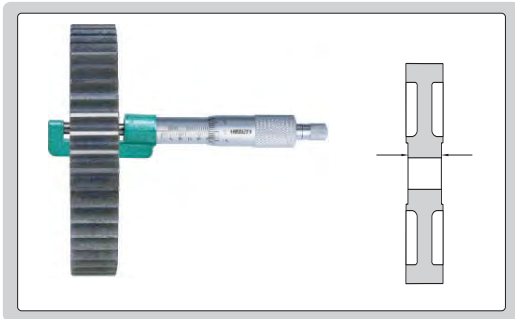
Part No.	Range	Micrometer head accuracy	Measuring tips accuracy	L	b
3581-25E	0-1"/0-25mm	±.00016"	.00031"	1.654"	1.024"
3581-50E	1-2"/25-50mm	±.00016"	.00031"	2.638"	1.496"
3581-75E	2-3"/50-75mm	±.00020"	.00039"	3.622"	1.969"
3581-100E	3-4"/75-100mm	±.00020"	.00039"	4.630"	2.441"

- Measure pitch diameter of screw threads
- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-1"/0-25mm)
- Optional accessory: 55° setting standards (part no. **3281-SP**), measuring tips (part no. **7381**, previous page), data output system (part no. **7306-30**, **7302-SPC2A**, **7305-SPC3**)

HUB MICROMETER



3292-1



Part No.	Range	Accuracy	h1	h2	H
3292-1	0-1"	.00016"	.236"	.354"	.736"
3292-2	1-2"	.00016"	.256"	.433"	.835"
3292-3	2-3"	.00020"	.256"	.433"	.835"
3292-4	3-4"	.00020"	.256"	.433"	.835"

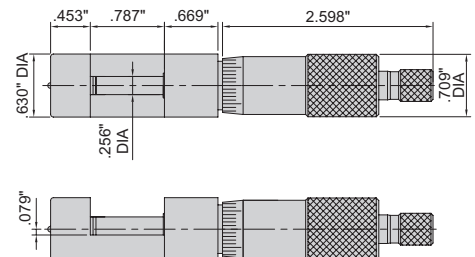
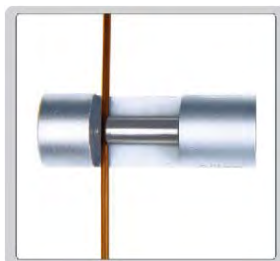
- Measure hub thickness and shoulder inside a bore
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")

WIRE MICROMETER



3285-4

- Measure diameter of wires and small balls
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces

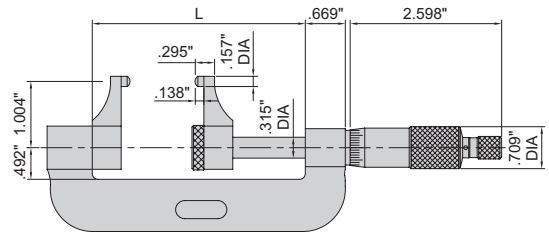


Part No.	Range	Accuracy
3285-4	0-.4"	.00016"

CALIPER TYPE MICROMETER

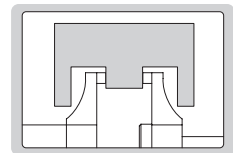


3238-1



Part No.	Range	Accuracy	L
3238-1	0-1"	.00020"	2.205"
3238-2	1-2"	.00024"	3.189"

- Graduation .001"
- Non-rotating spindle
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")



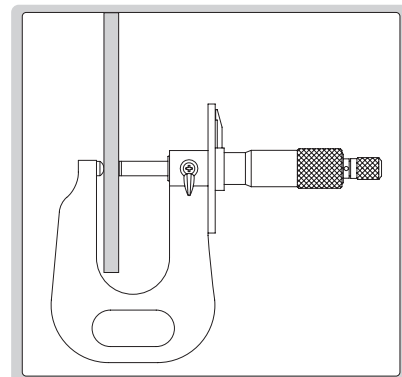
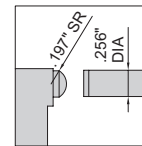
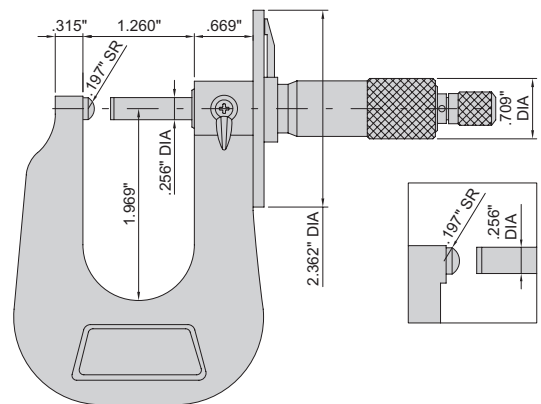
SHEET METAL MICROMETER



3263-1

- Measure thickness of sheet metal, paper, plastic and rubber parts
- Graduation .001"
- Ratchet stop
- Carbide measuring faces

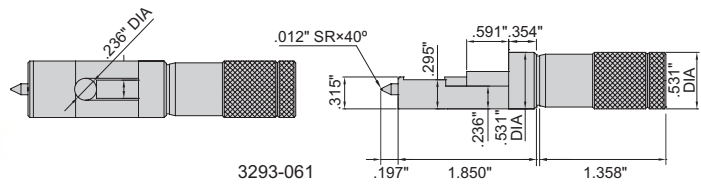
Part No.	Range	Accuracy
3263-1	0-1"	.00016"



CAN SEAM MICROMETER



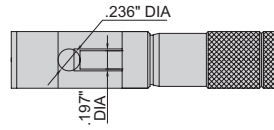
3293-061



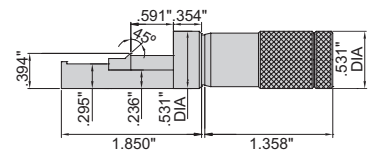
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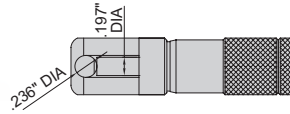
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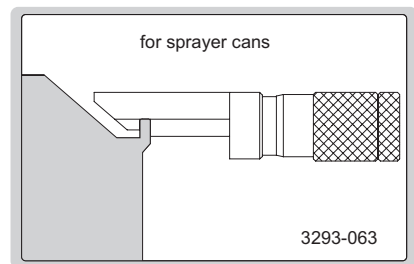
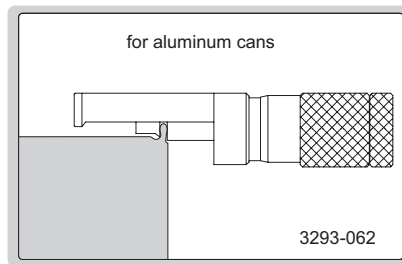
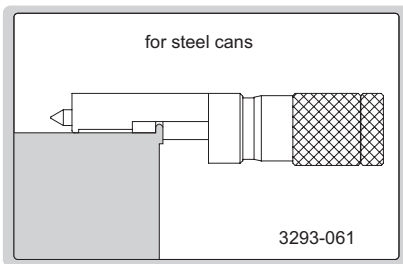
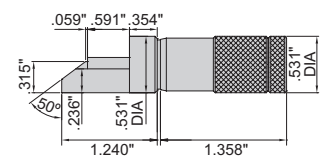
3293-062



3293-063



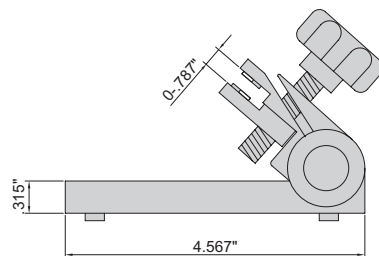
3293-063



Part No.	Range	Accuracy
3293-061	0-.6"	.00016"
3293-062	0-.6"	.00016"
3293-063	0-.6"	.00016"

- Measure the width, height and depth of can seams
- Graduation .001"

MICROMETER STAND



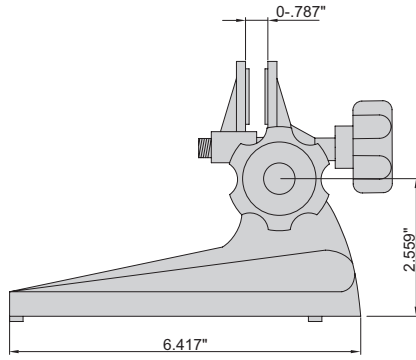
Part No.
6300

- Suitable for micrometers up to 4"



6300

MICROMETER STAND



Part No.

6301

■ Suitable for micrometers up to 4"

6301

Part No.	Length	Type	Accuracy	D
6311-1	1"	A	±.00006"	.276" DIA
6311-2	2"	A	±.00008"	.276" DIA
6311-3	3"	A	±.00010"	.276" DIA
6311-4	4"	A	±.00012"	.315" DIA
6311-5	5"	A	±.00014"	.315" DIA
6311-6	6"	A	±.00016"	.315" DIA
6311-7	7"	A	±.00018"	.315" DIA
6311-8	8"	A	±.00020"	.315" DIA
6311-9	9"	A	±.00022"	.315" DIA
6311-10	10"	A	±.00024"	.315" DIA
6311-11	11"	A	±.00026"	.315" DIA
6311-12	12"	B	±.00028"	.630" DIA
6311-13	13"	B	±.00030"	.630" DIA
6311-14	14"	B	±.00031"	.630" DIA
6311-15	15"	B	±.00033"	.630" DIA
6311-16	16"	B	±.00035"	.630" DIA
6311-17	17"	B	±.00037"	.630" DIA
6311-18	18"	B	±.00039"	.630" DIA
6311-19	19"	B	±.00041"	.630" DIA
6311-20	20"	B	±.00043"	.630" DIA
6311-21	21"	B	±.00045"	.630" DIA
6311-23	23"	B	±.00049"	.630" DIA
6311-25	25"	B	±.00053"	.630" DIA
6311-27	27"	B	±.00057"	.630" DIA
6311-29	29"	B	±.00061"	.630" DIA
6311-31	31"	B	±.00065"	.630" DIA
6311-33	33"	B	±.00069"	.630" DIA
6311-35	35"	B	±.00073"	.630" DIA
6311-37	37"	B	±.00077"	.630" DIA
6311-39	39"	B	±.00081"	.630" DIA

MICROMETER SETTING STANDARD



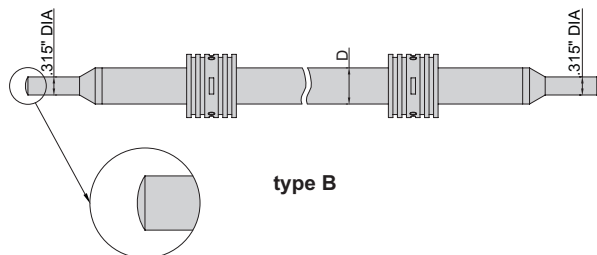
6311-4



type A



6311-12

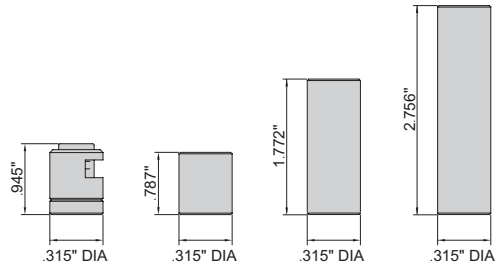


type B

MICROMETER MEASURING FORCE DETECTOR



6315



Part No.	Measuring force
6315	5-12N

- For outside micrometers 0-1"/0-25mm, 1-2"/25-50mm, 2-3"/50-75mm and 3-4"/75-100mm

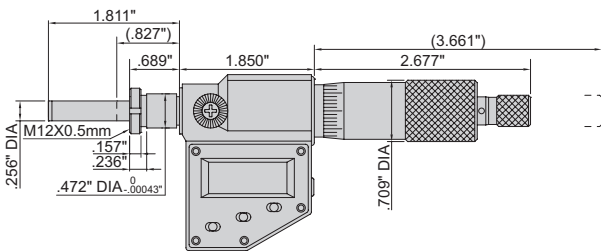
ELECTRONIC MICROMETER HEAD

DATA
OUTPUT

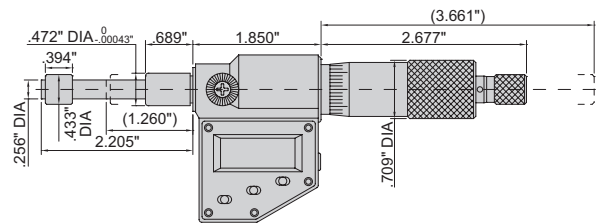
IP54
WATERPROOF



6353-25W



6353-25



6354-25W

Rotating spindle

Part No.	Range	Stem	Spindle tip	Accuracy
6353-25	0-1"/0-25mm	with clamp nut	flat (carbide)	±.00008"
6353-25W	0-1"/0-25mm	plain	flat (carbide)	±.00008"

Non-rotating spindle

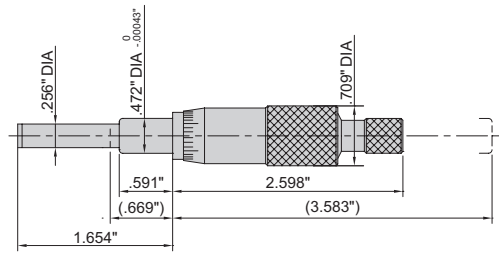
Part No.	Range	Stem	Spindle tip	Accuracy
6354-25W	0-1"/0-25mm	plain	flat (carbide)	±.00008"

- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

MICROMETER HEAD



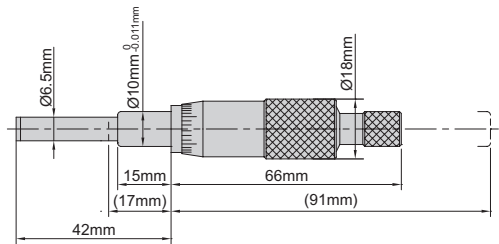
6381-1W



6381-1W



6381-25W



6381-25W

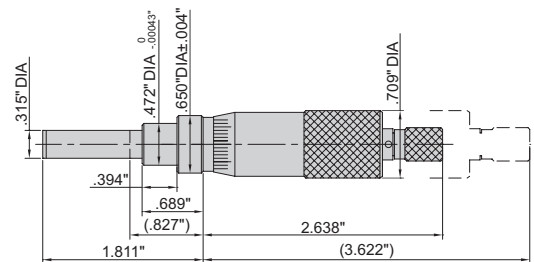
- Ratchet stop

Part No.	Range	Graduation	Spindle Tip	Accuracy
6381-1W	0-1"	.001"	flat (carbide)	.00012"
6381-25W	0-25mm	0.01mm	flat (carbide)	3µm

NON ROTATING SPINDLE MICROMETER HEAD



6377-1



Part No.	Range	Graduation	Spindle Tip	Accuracy
6377-1	0-1"	.001"	flat (carbide)	.00012"

- Ratchet stop
- Non rotating spindle

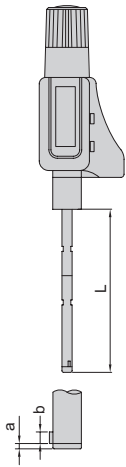
ELECTRONIC THREE POINTS INTERNAL MICROMETER

DATA
OUTPUT

IP54
WATERPROOF



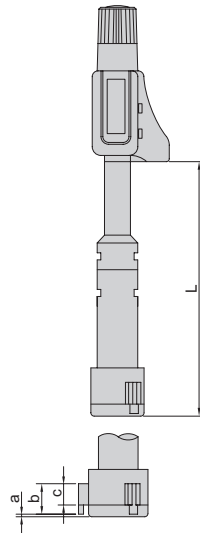
3127-E05



Type A
.275-.5", steel points



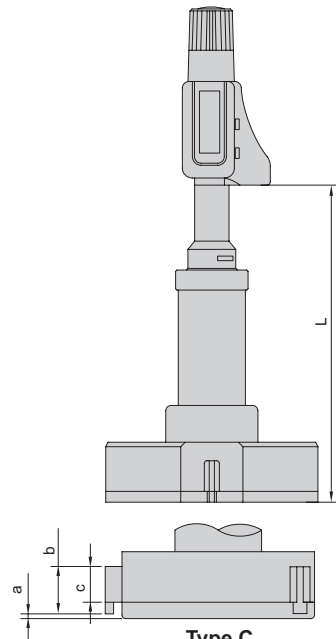
3127-E16



Type B
.5-2", carbide points



3127-E5



Type C
2-12", carbide points

setting ring



.275-4": included
4-12": optional

extension rod



.275-12": included

interchangeable jaws




4-12": have two sets
of jaws for different measuring range
(for example, 3127-E5 has
4-4.429" and 4.429-5" jaws)

To be continued

Continued from previous page

- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Buttons: on/off, set, inch/mm, ABS/INC
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output system (part no. **7306-30**, **7302-SPC2A**, **7305-SPC3**), setting ring (part no. **6313**)

Manufacturer Inspection Certificate

		Inspection Certificate	
Product name	Electronic Three Points Internal Micrometer	Traceable to	Germany 10339/D-K-15015-01-02/2012-09
Code No.	3127-E112	Inspector	Germany 31-0830/DKD-K-06901/2012-09 <i>Paulo</i>
Measuring range	1-1.2" / 25-30mm	Judgement	Passed
Resolution	.00005" / 0.001mm		
Serial No.	0910120004		
Standard temperature	68 °F		

Unit: inch		
Actual Ring Size(inch)	Permissible Error	Measured Deviation
1.02360	.00016	.00005
1.10228		.00005
1.18107		.00010

Individual

Part No.	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
3127-E035*	.275-.35"/7-9mm	A	.00016"	.275" DIA (included)	4"	2.18"	.059"	.098"	—
3127-E0425*	.35-.425"/9-11mm	A	.00016"	.35" DIA (included)	4"	2.18"	.059"	.098"	—
3127-E05*	.425-.5"/11-13mm	A	.00016"	.5" DIA (included)	4"	2.18"	.059"	.098"	—
3127-E065*	.5-.65"/13-17mm	B	.00016"	.65" DIA (included)	6"	3.2"	.059"	.236"	.177"
3127-E08*	.65-.8"/17-20mm	B	.00016"	.65" DIA (included)	6"	3.2"	.020"	.236"	.177"
3127-E1*	.8-1"/20-25mm	B	.00016"	1" DIA (included)	6"	3.6"	.020"	.315"	.236"
3127-E112*	1-1.2"/25-30mm	B	.00016"	1" DIA (included)	6"	3.6"	.020"	.315"	.236"
3127-E16*	1.2-1.6"/30-40mm	B	.00016"	1.6" DIA (included)	6"	3.88"	.020"	.551"	.472"
3127-E2*	1.6-2"/40-51mm	B	.00020"	1.6" DIA (included)	6"	3.88"	.020"	.551"	.472"
3127-E25*	2-2.5"/51-63mm	C	.00020"	2.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E3*	2.5-3"/63-76mm	C	.00020"	2.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E35*	3-3.5"/76-89mm	C	.00020"	3.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E4*	3.5-4"/89-101mm	C	.00020"	3.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E5*	4-5"/101-127mm	C	.00020"	4.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E6*	5-6"/127-152mm	C	.00020"	5.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E7*	6-7"/152-178mm	C	.00020"	6.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E8*	7-8"/178-203mm	C	.00020"	7.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E9	8-9"/203-228mm	C	.00028"	8.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E10	9-10"/228-254mm	C	.00028"	9.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E11	10-11"/254-279mm	C	.00028"	10.5" DIA (optional)	6"	6"	.020"	.768"	.571"
3127-E12	11-12"/279-305mm	C	.00028"	11.5" DIA (optional)	6"	6"	.020"	.768"	.571"

Set

Part No.	Range	Micrometers (included)	Setting ring (included)	Extension rod (included)
3127-E053*	.275-.5"/7-13mm	.275-.35"/7-9mm, .35-.425"/9-11mm .425-.5"/11-13mm	.275" DIA, .35" DIA, .5" DIA	4"
3127-E082*	.5-.8"/13-20mm	.5-.65"/13-17mm, .65-.8"/17-20mm	.65" DIA	6"
3127-E24*	.8-2"/20-51mm	.8-1"/20-25mm, 1-1.2"/25-30mm 1.2-1.6"/30-40mm, 1.6-2"/40-51mm	1" DIA, 1.6" DIA	6"
3127-E44*	2-4"/51-101mm	2-2.5"/51-63mm, 2.5-3"/63-76mm 3-3.5"/76-89mm, 3.5-4"/89-101mm	2.5" DIA, 3.5" DIA	6"

* Supplied with manufacturer inspection certificate

THREE POINTS INTERNAL MICROMETER



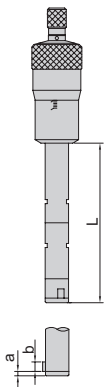
3227-E035



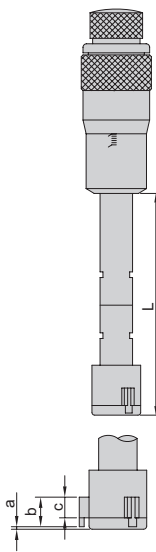
3227-E065



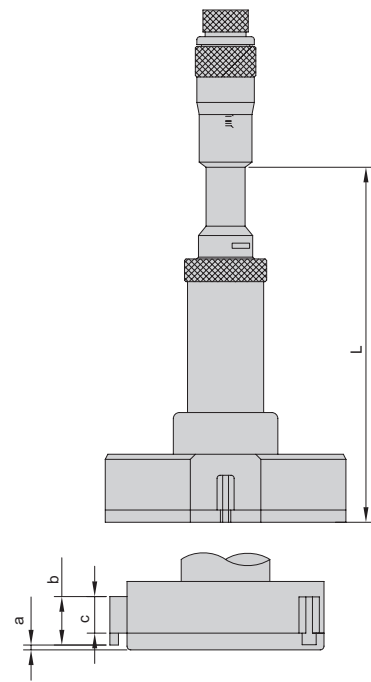
3227-E4



Type A
.275-.5", steel points



Type B
.5-2", carbide points



Type C
2-12", carbide points

setting ring



.275-4": included
4-12": optional

extension rod



.275-12": included

interchangeable jaws




4-12": have two sets
of jaws for different measuring range
(for example, 3127-E5 has 4-4.429" and 4.429-5" jaws)

To be continued

Continued from previous page

Manufacturer Inspection Certificate

		Inspection Certificate	
Product name	Three Points Internal Micrometer	Traceable to	Germany 10339/D-K-15015-01-02/2012-09
Code No.	3227-E112		Germany 31-0830/DKD-K-06901/2012-09
Measuring range	1-1.2"	Inspector	<i>Paulo</i>
Graduation	.0002"	Judgement	Passed
Serial No.	0910142544		
Standard temperature	68 °F		
			Unit: inch
Actual Ring Size(inch)		Permissible Error	Measured Deviation
1.02360		.00016	0
1.10228			.00010
1.18107			.00010

- .275-.5": graduation .0001"
- .5-1.2": graduation .0002"
- Ratchet stop
- Optional accessory: setting rings (part no. 6313)

Individual

Part No.	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
3227-E035*	.275-.35"	A	.00016"	.275" DIA (included)	4"	2.146"	.059"	.098"	—
3227-E0425*	.35-.425"	A	.00016"	.35" DIA (included)	4"	2.146"	.059"	.098"	—
3227-E05*	.425-.5"	A	.00016"	.5" DIA (included)	4"	2.146"	.059"	.098"	—
3227-E065*	.5-.65"	B	.00016"	.65" DIA (included)	6"	3.150"	.020"	.236"	.177"
3227-E08*	.65-.8"	B	.00016"	.65" DIA (included)	6"	3.150"	.020"	.236"	.177"
3227-E1*	.8-1"	B	.00016"	1" DIA (included)	6"	3.543"	.020"	.315"	.236"
3227-E112*	1-1.2"	B	.00016"	1" DIA (included)	6"	3.543"	.020"	.315"	.236"
3227-E16*	1.2-1.6"	B	.00016"	1.6" DIA (included)	6"	3.819"	.020"	.551"	.472"
3227-E2*	1.6-2"	B	.00020"	1.6" DIA (included)	6"	3.819"	.020"	.551"	.472"
3227-E25*	2-2.5"	C	.00020"	2.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E3*	2.5-3"	C	.00020"	2.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E35*	3-3.5"	C	.00020"	3.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E4*	3.5-4"	C	.00020"	3.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E5*	4-5"	C	.00020"	4.429" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E6*	5-6"	C	.00020"	5.413" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E7*	6-7"	C	.00020"	6.398" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E8*	7-8"	C	.00020"	7.382" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E9	8-9"	C	.00028"	8.366" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E10	9-10"	C	.00028"	9.350" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E11	10-11"	C	.00028"	10.335" DIA (optional)	6"	5.709"	.020"	.768"	.571"
3227-E12	11-12"	C	.00028"	11.319" DIA (optional)	6"	5.709"	.020"	.768"	.571"

Set

Part No.	Range	Micrometers (included)	Setting ring (included)	Extension rod (included)
3227-E053*	.275-.5"	.275-.35", .35-.425", .425-.5"	.275" DIA, .35" DIA, .5" DIA	4"
3227-E082*	.5-.8"	.5-.65", .65-.8"	.65" DIA	6"
3227-E24*	.8-2"	.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1" DIA, 1.6" DIA	6"
3227-E44*	2-4"	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA, 3.5" DIA	6"

* Supplied with manufacturer inspection certificate

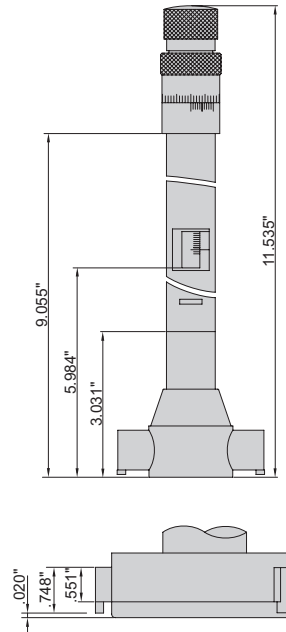
WIDE RANGE THREE POINTS INTERNAL MICROMETER



- Graduation .0001"
- Carbide measuring faces
- Ratchet stop
- Setting rings are included (except part no. 3228-12)

Part No.	Range	Accuracy	Setting ring
3228-28*	2-2.8"	.00020"	2" DIA (included)
3228-4*	2.8-4"	.00020"	2.8" DIA (included)
3228-6*	4-6"	.00024"	4" DIA (included)
3228-10*	6-10"	.00032"	6" DIA (included)
3228-12*	8-12"	.00036"	8" DIA (optional)

* Supplied with manufacturer inspection certificate



3228-28

ELECTRONIC WIDE RANGE THREE POINTS INTERNAL MICROMETER

- Resolution .00005"/0.001mm
- IP54 dust/waterproof
- Buttons: on/off, set, inch/mm, ABS/INC
- Data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except part no. 3128-12)
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3)

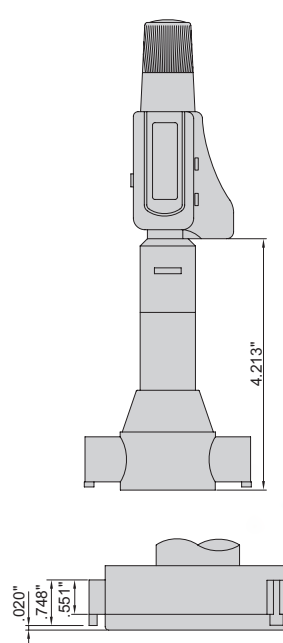
DATA
OUTPUT

IP54
WATERPROOF



Part No.	Range	Accuracy	Setting ring	Extension rod
3128-28*	2-2.8"/51-71mm	.00020"	2" DIA (included)	6"
3128-4*	2.8-4"/71-101mm	.00020"	2.8" DIA (included)	6"
3128-6*	4-6"/101-152mm	.00024"	4" DIA (included)	6"
3128-10*	6-10"/152-254mm	.00032"	6" DIA (included)	6"
3128-12*	8-12"/203-305mm	.00036"	8" DIA (optional)	6"

* Supplied with manufacturer inspection certificate



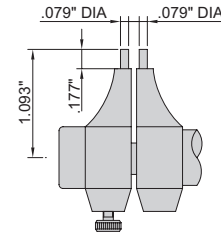
3128-28

INSIDE MICROMETER

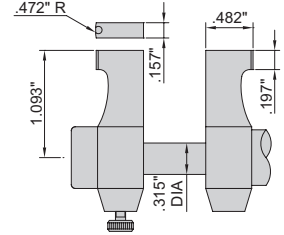


3220-2

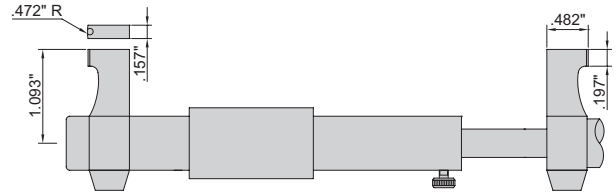
Part No.	Range	Type	Setting ring	Accuracy
3220-1	.2-1.2"	A	.2"DIA (included)	.00028"
3220-2	1-2"	B	1"DIA (included)	.00032"
3220-3	2-3"	B	2"DIA (optional)	.00032"
3220-4	3-4"	C	3"DIA (optional)	.00032"
3220-5	4-5"	C	4"DIA (optional)	.00036"
3220-6	5-6"	C	5"DIA (optional)	.00036"
3220-7	6-7"	C	6"DIA (optional)	.00040"
3220-8	7-8"	C	7"DIA (optional)	.00040"



type A



type B



type C

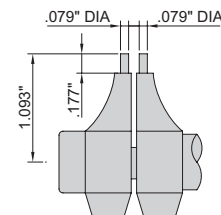
- Graduation .001"
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting ring (part no. 6313)

DATA
OUTPUT

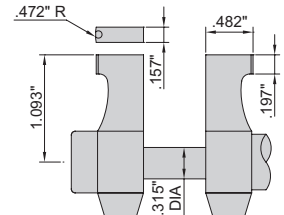


3520-30E

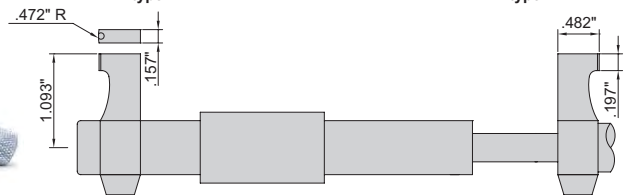
ELECTRONIC INSIDE MICROMETER



type A



type B



type C

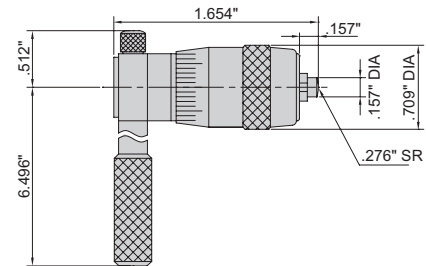
- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output system (part no. 7306-30, 7302-SPC2A, 7305-SPC3), setting ring (part no. 6313)

Part No.	Range	Type	Setting ring	Accuracy
3520-30E	.2-1.2"/5-30mm	A	.2"DIA (included)	±.00020"
3520-50E	1-2"/25-50mm	B	1"DIA (included)	±.00024"
3520-75E	2-3"/50-75mm	B	2"DIA (optional)	±.00028"
3520-100E	3-4"/75-100mm	C	3"DIA (optional)	±.00032"

TUBULAR INSIDE MICROMETER

- Graduation .001"
- Accuracy: $[\text{.0003} + \text{.00005(L/2)}]$
L=maximum measuring length (inch)
- Optional accessory: setting ring (part no. 6313)

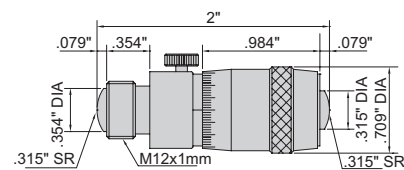
Part No.	Range	Travel of micrometer head	Extension rods
3221-125	1-1.25"	.25"	—
3221-2	1-2"	.25"	2pcs
3221-25	2-2.5"	.5"	—
3221-8	2-8"	.5"	6pcs
3221-12	2-12"	.5"	10pcs
3221-9	8-9"	1"	—
3221-20	8-20"	1"	3pcs
3221-40	8-40"	1"	8pcs



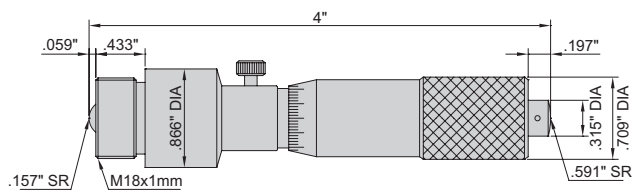
TUBULAR INSIDE MICROMETER

- Graduation .001"
- Accuracy: $[\text{.00005}(3+n+L/2)]$
n=number of rods, L=maximum measuring length (inch)
- Supplied with setting standards
- Carbide measuring faces

Part No.	Range	Travel of micrometer head	Extension rods
3222-25	2-2.5"	.5"	—
3222-6	2-6"	.5"	.5", 1", 2"
3222-12	2-12"	.5"	.5", 1", 2" (2pcs), 4"
3222-20	2-20"	.5"	.5", 1", 2" (2pcs), 4", 8"
3222-24	2-24"	.5"	.5", 1", 2", 4", 6", 8"
3222-40	2-40"	.5"	.5", 1", 2" (2pcs), 4", 8" (2pcs), 12"
3222-60	2-60"	.5"	.5", 1", 2" (2pcs), 4", 8" (3pcs), 12" (2pcs)



TUBULAR INSIDE MICROMETER



Part No.	Range	Graduation	Travel of micrometer head	Extension rods
3225-20	4-20"	.001"	1"	1", 2", 4", 8"
3225-36	4-36"	.001"	1"	1", 2", 4", 8", 16"
3225-52	4-52"	.001"	1"	1", 2", 4", 8", 16" (2pcs)
3225-84	4-84"	.001"	1"	1", 2", 4", 8", 16" (4pcs)

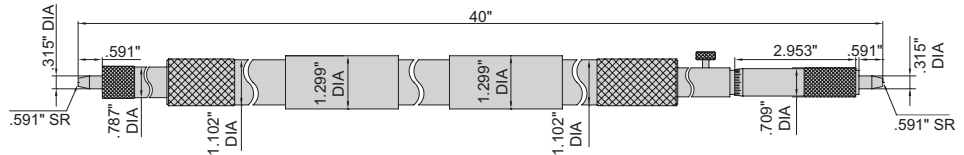


- Accuracy: $[\text{.00005}(3+n+L/2)]$
n=number of rods, L=maximum measuring length (inch)
- Supplied with setting standards
- Carbide measuring faces

TUBULAR INSIDE MICROMETER



3224-80



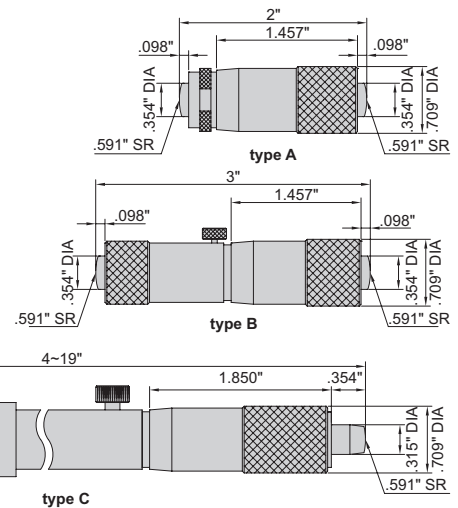
- Graduation .001"
- Accuracy: $[(.00005(7+n+L/2))]$
n=number of rods, L=maximum measuring length (inch)
- Carbide measuring faces

Part No.	Range	Travel of micrometer head	Extension rods
3224-80	40-80"	2"	2", 4" (2pcs), 8", 20"
3224-120	40-120"	2"	2", 4" (2pcs), 8", 20", 40"
3224-160	40-160"	2"	2", 4" (2pcs), 8", 20", 40" (2pcs)
3224-200	40-200"	2"	2", 4" (2pcs), 8", 20", 40" (3pcs)

TUBULAR INSIDE MICROMETER



3229-7



- Graduation .001"
- Carbide measuring faces

Part No.	Range	Type	Accuracy
3229-3	2-3"	A	.00020"
3229-4	3-4"	B	.00020"
3229-5	4-5"	C	.00024"
3229-6	5-6"	C	.00024"
3229-7	6-7"	C	.00028"
3229-8	7-8"	C	.00028"
3229-9	8-9"	C	.00032"
3229-10	9-10"	C	.00032"
3229-11	10-11"	C	.00036"

Part No.	Range	Type	Accuracy
3229-12	11-12"	C	.00036"
3229-13	12-13"	C	.00036"
3229-14	13-14"	C	.00036"
3229-15	14-15"	C	.00040"
3229-16	15-16"	C	.00040"
3229-17	16-17"	C	.00040"
3229-18	17-18"	C	.00040"
3229-19	18-19"	C	.00043"
3229-20	19-20"	C	.00043"

SPLIT TYPE DIAL BORE GAGE



dial indicator
is not included



type A

dial indicator
is not included



type B

dial indicator
is not included

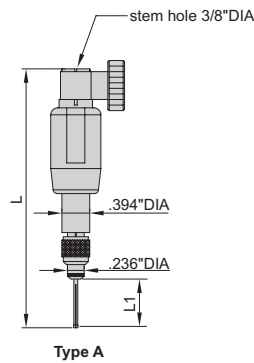


type C

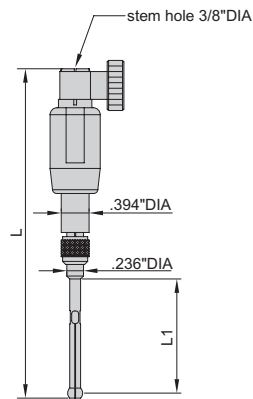


2421-E121

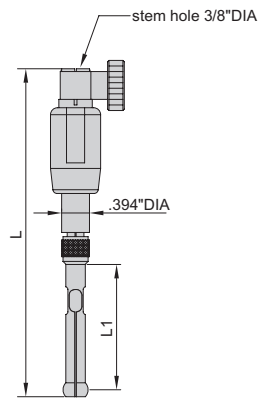
- Split type contact points
- Accuracy (without dial indicator):
118µin (measuring range .163"~.394"),
157µin (measuring range .394"~.811")
- Repeatability (without dial indicator): .39µin
- Setting rings and dial indicators
(graduation .001" or .0001" or .00005")
are optional



Type A



Type B



Type C

Part No.	Range	Quantity of points	Measuring range of points	Measuring depth (L1)	Total length (L)	Material	Type of points	Applicable setting ring (optional)	
								Part No.	Diameter
2421-E1D4	.037-.061"	5	.037-.045"	.512"	3.504"	carbide tip	A	6313-0D041	.041"
			.042-.049"	.512"	3.504"	carbide tip	A	6313-0D046	.046"
			.046-.053"	.512"	3.504"	carbide tip	A	6313-0D050	.050"
			.050-.057"	.512"	3.504"	carbide tip	A	6313-0D054	.054"
			.054-.061"	.512"	3.504"	carbide tip	A	6313-0D058	.058"

To be continued

Continued from previous page

Part No.	Range	Quantity of points	Measuring range of points	Measuring depth (L1)	Total length (L)	Material	Type of points	Applicable setting ring (optional)	
								Part No.	Diameter
2421-E4	.059 - .165"	10	.059 - .075"	.669"	3.661"	carbide tip	A	6313-0D067	.067"
			.071 - .087"	.669"	3.661"	carbide tip	A	6313-0D079	.079"
			.081 - .096"	.669"	3.661"	carbide tip	A	6313-0D089	.089"
			.091 - .106"	.984"	3.976"	carbide tip	A	6313-0D099	.099"
			.100 - .116"	.984"	3.976"	carbide tip	A	6313-0D108	.108"
			.110 - .126"	.984"	3.976"	carbide tip	A	6313-0D118	.118"
			.120 - .136"	.984"	3.976"	carbide tip	A	6313-0D128	.128"
			.130 - .146"	.984"	3.976"	carbide tip	A	6313-0D138	.138"
			.140 - .156"	.984"	3.976"	carbide tip	A	6313-0D148	.148"
2421-E7D5	.163 - .307"	7	.163 - .189"	1.614"	4.646"	hard chromed	B	6313-0D176	.176"
			.185 - .209"	1.614"	4.646"	hard chromed	B	6313-0D197	.197"
			.205 - .228"	1.614"	4.646"	hard chromed	B	6313-0D217	.217"
			.224 - .248"	1.614"	4.646"	hard chromed	B	6313-0D236	.236"
			.244 - .268"	1.614"	4.646"	hard chromed	B	6313-0D256	.256"
			.264 - .287"	1.614"	4.646"	hard chromed	B	6313-0D276	.276"
			.283 - .307"	1.614"	4.646"	hard chromed	C	6313-0D295	.295"
2421-E12	.303 - .492"	6	.303 - .327"	1.772"	4.646"	hard chromed	C	6313-0D315	.315"
			.323 - .346"	1.772"	4.646"	hard chromed	C	6313-0D335	.335"
			.343 - .366"	1.772"	4.646"	hard chromed	C	6313-0D355	.355"
			.362 - .413"	1.772"	4.646"	hard chromed	C	6313-0D388	.388"
			.402 - .453"	1.772"	4.646"	hard chromed	C	6313-0D428	.428"
2421-E20	.480 - .811"	8	.441 - .492"	1.772"	4.646"	hard chromed	C	6313-0D467	.467"
			.480 - .531"	1.772"	4.646"	hard chromed	C	6313-0D506	.506"
			.528 - .575"	1.772"	4.646"	hard chromed	C	6313-0D552	.552"
			.567 - .614"	1.772"	4.646"	hard chromed	C	6313-0D591	.591"
			.606 - .654"	1.772"	4.646"	hard chromed	C	6313-0D630	.630"
			.646 - .693"	1.772"	4.646"	hard chromed	C	6313-0D670	.670"
			.685 - .732"	1.772"	4.646"	hard chromed	C	6313-0D709	.709"
			.724 - .772"	1.772"	4.646"	hard chromed	C	6313-0D748	.748"
2421-E121	.163 - .492"	13	.764 - .811"	1.772"	4.646"	hard chromed	C	6313-0D788	.788"
			.163 - .189"	1.614"	4.646"	hard chromed	B	6313-0D176	.176"
			.185 - .209"	1.614"	4.646"	hard chromed	B	6313-0D197	.197"
			.205 - .228"	1.614"	4.646"	hard chromed	B	6313-0D217	.217"
			.224 - .248"	1.614"	4.646"	hard chromed	B	6313-0D236	.236"
			.244 - .268"	1.614"	4.646"	hard chromed	B	6313-0D256	.256"
			.264 - .287"	1.614"	4.646"	hard chromed	B	6313-0D276	.276"
			.283 - .307"	1.772"	4.646"	hard chromed	C	6313-0D295	.295"
			.303 - .327"	1.772"	4.646"	hard chromed	C	6313-0D315	.315"
			.323 - .346"	1.772"	4.646"	hard chromed	C	6313-0D335	.335"
			.343 - .366"	1.772"	4.646"	hard chromed	C	6313-0D355	.355"
			.362 - .413"	1.772"	4.646"	hard chromed	C	6313-0D388	.388"
			.402 - .453"	1.772"	4.646"	hard chromed	C	6313-0D428	.428"
.441 - .492"	1.772"	4.646"	hard chromed	C	6313-0D467	.467"			

SPLIT TYPE DIAL BORE GAGE

- Split type contact points
- Accuracy (without dial indicator): 118µin (measuring range .163-.394"), 157µin (measuring range .394-.811")
- Repeatability (without dial indicator): 39µin
- Setting rings and dial indicators (graduation .001" or .0001" or .00005") are optional

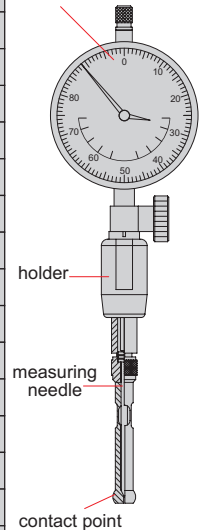


Contact points					Measuring needle	Setting ring	
Part No.	Measuring range	Measuring depth (L1)	Total length (L)	Material	Part No.	Part No.	Diameter
2426-1	.037 - .045"	.512"	3.504"	carbide tip	2426-N1D4	6313-0D041	.041"
2426-1D1	.042 - .049"	.512"	3.504"	carbide tip		6313-0D046	.046"
2426-1D2	.046 - .053"	.512"	3.504"	carbide tip		6313-0D050	.050"
2426-1D3	.050 - .057"	.512"	3.504"	carbide tip		6313-0D054	.054"
2426-1D4	.054 - .061"	.512"	3.504"	carbide tip		6313-0D058	.058"
2426-1D75	.059 - .075"	.669"	3.661"	carbide tip	2426-N2D25	6313-0D067	.067"
2426-2	.071 - .087"	.669"	3.661"	carbide tip		6313-0D079	.079"
2426-2D25	.081 - .096"	.669"	3.661"	carbide tip		6313-0D089	.089"
2426-2D5	.091 - .106"	.984"	3.976"	carbide tip	2426-N4	6313-0D099	.099"
2426-2D75	.100 - .116"	.984"	3.976"	carbide tip		6313-0D108	.108"
2426-3	.110 - .126"	.984"	3.976"	carbide tip		6313-0D118	.118"
2426-3D25	.120 - .136"	.984"	3.976"	carbide tip		6313-0D128	.128"
2426-3D5	.130 - .146"	.984"	3.976"	carbide tip		6313-0D138	.138"
2426-3D75	.140 - .156"	.984"	3.976"	carbide tip		6313-0D148	.148"
2426-4	.150 - .165"	.984"	3.976"	carbide tip		6313-0D158	.158"
2426-4D5	.163 - .189"	1.614"	4.646"	hard chromed		6313-0D176	.176"
2426-5	.185 - .209"	1.614"	4.646"	hard chromed	2426-N9	6313-0D197	.197"
2426-5D5	.205 - .228"	1.614"	4.646"	hard chromed		6313-0D217	.217"
2426-6	.224 - .248"	1.614"	4.646"	hard chromed		6313-0D236	.236"
2426-6D5	.244 - .268"	1.614"	4.646"	hard chromed		6313-0D256	.256"
2426-7	.264 - .287"	1.614"	4.646"	hard chromed		6313-0D276	.276"
2426-7D5	.283 - .307"	1.772"	4.646"	hard chromed		6313-0D295	.295"
2426-8	.303 - .327"	1.772"	4.646"	hard chromed		6313-0D315	.315"
2426-8D5	.323 - .346"	1.772"	4.646"	hard chromed		6313-0D335	.335"
2426-9	.343 - .366"	1.772"	4.646"	hard chromed		6313-0D355	.355"
2426-10	.362 - .413"	1.772"	4.646"	hard chromed		6313-0D388	.388"
2426-11	.402 - .453"	1.772"	4.646"	hard chromed	2426-N20	6313-0D428	.428"
2426-12	.441 - .492"	1.772"	4.646"	hard chromed		6313-0D467	.467"
2426-13	.480 - .531"	1.772"	4.646"	hard chromed		6313-0D506	.506"
2426-14	.528 - .575"	1.772"	4.646"	hard chromed		6313-0D552	.552"
2426-15	.567 - .614"	1.772"	4.646"	hard chromed		6313-0D591	.591"
2426-16	.606 - .654"	1.772"	4.646"	hard chromed		6313-0D630	.630"
2426-17	.646 - .693"	1.772"	4.646"	hard chromed		6313-0D670	.670"
2426-18	.685 - .732"	1.772"	4.646"	hard chromed		6313-0D709	.709"
2426-19	.724 - .772"	1.772"	4.646"	hard chromed		6313-0D748	.748"
2426-20	.764 - .811"	1.772"	4.646"	hard chromed		6313-0D788	.788"

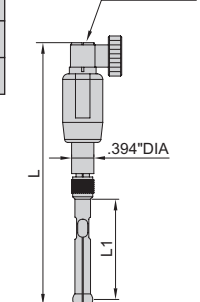
dial indicator is not included



dial indicator



stem hole 3/8"DIA



HOLDER

Part No.	Retraction	Applicable points
2426-HOLDER1E	without	all
2426-HOLDER2E	with	all



2426-HOLDER1E



retraction button

2426-HOLDER2E

SPLIT TYPE DIAL BORE GAGE SET FOR BLIND HOLES



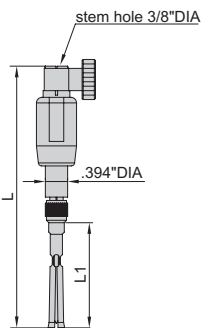
2429-E4

- Split type contact points
- Accuracy (without dial indicator):
118µin (measuring range .059-.394"),
157µin (measuring range .394~.811")
- Repeatability (without dial indicator): 39µin
- Setting rings and dial indicators
(graduation .001" or .0001" or .00005")
are optional

dial indicator
is not included



point
retraction button

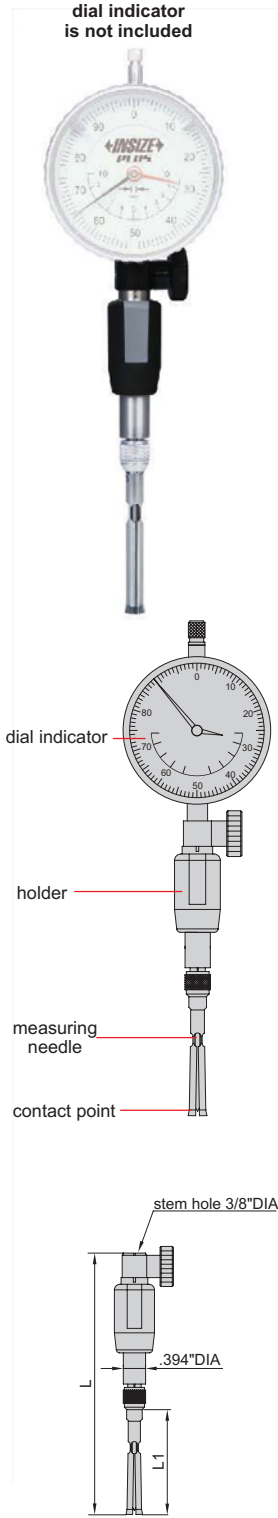


Part No.	Range	Quantity of points	Measuring range of points	Measuring depth(L1)	Total length(L)	Applicable setting ring(optional)	
						Part No.	Diameter
2429-E4	.059 - .165"	10	.059 - .075"	.669"	3.661"	6313-0D067	.067"
			.071 - .087"	.669"	3.661"	6313-0D079	.079"
			.081 - .096"	.669"	3.661"	6313-0D089	.089"
			.091 - .106"	.984"	3.976"	6313-0D099	.099"
			.100 - .116"	.984"	3.976"	6313-0D108	.108"
			.110 - .126"	.984"	3.976"	6313-0D118	.118"
			.120 - .136"	.984"	3.976"	6313-0D128	.128"
			.130 - .146"	.984"	3.976"	6313-0D138	.138"
			.140 - .156"	.984"	3.976"	6313-0D148	.148"
			.150 - .165"	.984"	3.976"	6313-0D158	.158"
2429-E7D5	.163 - .307"	7	.163 - .189"	1.614"	4.646"	6313-0D176	.176"
			.185 - .209"	1.614"	4.646"	6313-0D197	.197"
			.205 - .228"	1.614"	4.646"	6313-0D217	.217"
			.224 - .248"	1.614"	4.646"	6313-0D236	.236"
			.244 - .268"	1.614"	4.646"	6313-0D256	.256"
			.264 - .287"	1.614"	4.646"	6313-0D276	.276"
			.283 - .307"	1.772"	4.646"	6313-0D295	.295"
2429-E12	.303 - .492"	6	.303 - .327"	1.772"	4.646"	6313-0D315	.315"
			.323 - .346"	1.772"	4.646"	6313-0D335	.335"
			.343 - .366"	1.772"	4.646"	6313-0D355	.355"
			.362 - .413"	1.772"	4.646"	6313-0D388	.388"
			.402 - .453"	1.772"	4.646"	6313-0D428	.428"
			.441 - .492"	1.772"	4.646"	6313-0D467	.467"
2429-E20	.480 - .811"	8	.480 - .531"	1.772"	4.646"	6313-0D506	.506"
			.528 - .575"	1.772"	4.646"	6313-0D552	.552"
			.567 - .614"	1.772"	4.646"	6313-0D591	.591"
			.606 - .654"	1.772"	4.646"	6313-0D630	.630"
			.646 - .693"	1.772"	4.646"	6313-0D670	.670"
			.685 - .732"	1.772"	4.646"	6313-0D709	.709"
			.724 - .772"	1.772"	4.646"	6313-0D748	.748"
			.764 - .811"	1.772"	4.646"	6313-0D788	.788"

SPLIT TYPE DIAL BORE GAGE FOR BLIND HOLES



- Split type contact points
- Accuracy (without dial indicator): 118µin (measuring range .059-.394"), 157µin (measuring range .394-.811")
- Repeatability (without dial indicator): 39µin
- Setting rings and dial indicators (graduation .001" or .0001" or .00005") are optional



Part No.	Contact points			Measuring needle	Setting ring	
	Measuring range	Measuring depth (L1)	Total length (L)		Part No.	Diameter
2427-1D75	.059 - .075"	.669"	3.661"	2426-N2D25	6313-0D067	.067"
2427-2	.071 - .087"	.669"	3.661"		6313-0D079	.079"
2427-2D25	.081 - .096"	.669"	3.661"		6313-0D089	.089"
2427-2D5	.091 - .106"	.984"	3.976"	2426-N4	6313-0D099	.099"
2427-2D75	.100 - .116"	.984"	3.976"		6313-0D108	.108"
2427-3	.110 - .126"	.984"	3.976"		6313-0D118	.118"
2427-3D25	.120 - .136"	.984"	3.976"		6313-0D128	.128"
2427-3D5	.130 - .146"	.984"	3.976"		6313-0D138	.138"
2427-3D75	.140 - .156"	.984"	3.976"		6313-0D148	.148"
2427-4	.150 - .165"	.984"	3.976"		6313-0D158	.158"
2427-4D5	.163 - .189"	1.614"	4.646"		6313-0D176	.176"
2427-5	.185 - .209"	1.614"	4.646"		6313-0D197	.197"
2427-5D5	.205 - .228"	1.614"	4.646"		6313-0D217	.217"
2427-6	.224 - .248"	1.614"	4.646"	6313-0D236	.236"	
2427-6D5	.244 - .268"	1.614"	4.646"	6313-0D256	.256"	
2427-7	.264 - .287"	1.614"	4.646"	6313-0D276	.276"	
2427-7D5	.283 - .307"	1.772"	4.646"	6313-0D295	.295"	
2427-8	.303 - .327"	1.772"	4.646"	6313-0D315	.315"	
2427-8D5	.323 - .346"	1.772"	4.646"	6313-0D335	.335"	
2427-9	.343 - .366"	1.772"	4.646"	6313-0D355	.355"	
2427-10	.362 - .413"	1.772"	4.646"	6313-0D388	.388"	
2427-11	.402 - .453"	1.772"	4.646"	6313-0D428	.428"	
2427-12	.441 - .492"	1.772"	4.646"	6313-0D467	.467"	
2427-13	.480 - .531"	1.772"	4.646"	6313-0D506	.506"	
2427-14	.528 - .575"	1.772"	4.646"	6313-0D552	.552"	
2427-15	.567 - .614"	1.772"	4.646"	6313-0D591	.591"	
2427-16	.606 - .654"	1.772"	4.646"	6313-0D630	.630"	
2427-17	.646 - .693"	1.772"	4.646"	6313-0D670	.670"	
2427-18	.685 - .732"	1.772"	4.646"	6313-0D709	.709"	
2427-19	.724 - .772"	1.772"	4.646"	6313-0D748	.748"	
2427-20	.764 - .811"	1.772"	4.646"	6313-0D788	.788"	

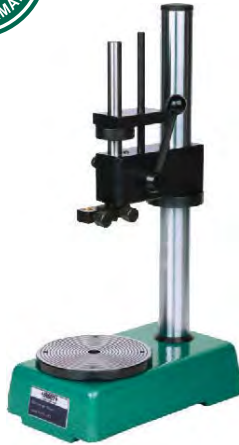
HOLDER

Part No.	Retraction	Applicable points
2426-HOLDER1E	without	all
2426-HOLDER2E	with	all

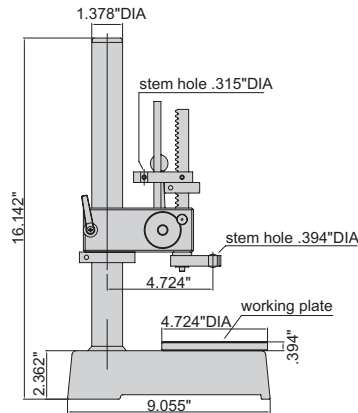




STAND FOR SPLIT TYPE DIAL BORE GAGE



2491-250



Part No.

2491-250

- For split type dial bore gage
- Maximum working stroke: 3.543"
- Accept dial indicator to show measuring depth



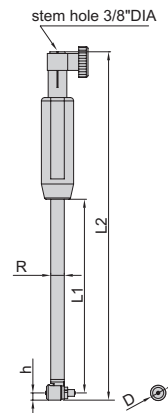
BORE GAGE FOR SMALL HOLES

- Carbide contact point and anvil
- Optional accessory: dial indicator (graduation .001" or .0001" or .00005"), setting ring

dial indicator is not included



2425-E6



Part No.	Range	Accuracy (without dial comparator)	Repeatability (without dial comparator)	L1	L2	R	D	h
2425-E6	.18-.24"	79µin	20µin	3.150"	5.787"	.157"DIA	.157"DIA	.079"
2425-E8	.24-.32"	79µin	20µin	3.937"	6.496"	.197"DIA	.205"DIA	.102"
2425-E12	.32-.47"	79µin	20µin	3.937"	6.535"	.197"DIA	.256"DIA	.128"
2425-E20	.47-.79"	79µin	20µin	4.331"	8.031"	.315"DIA	.354"DIA	.177"

BORE GAGE

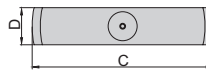
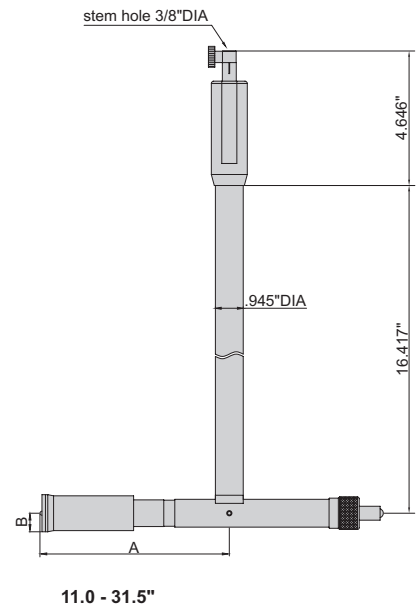
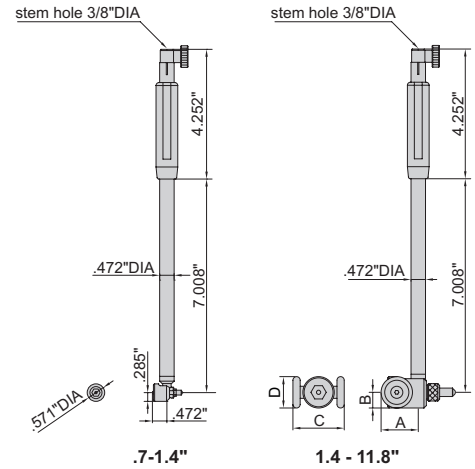


dial indicator
is not included



2422-E150

contact points



- Optional accessory:
 - Dial indicator (graduation .001" or .0001" or .00005")
 - Setting ring
 - Long handle (part no. 7352)

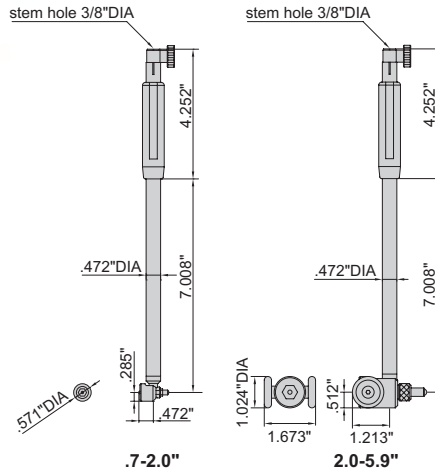
Part No.	Range	Accuracy (without dial comparator)	Repeatability (without dial comparator)
2422-E35	.7-1.4"	157µin	79µin
2422-E60	1.4-2.4"	157µin	79µin
2422-E150	2.0-5.9"	157µin	79µin
2422-E300	5.9-11.8"	157µin	79µin
2422-E510	11.0-20.1"	118µin	59µin
2422-E800	15.7-31.5"	118µin	59µin

Range	A	B	C	D
1.4-2.4"	.768"	.413"	1.102"	.827" DIA
2.0-5.9"	1.213"	.512"	1.673"	1.024" DIA
5.9-11.8"	1.213"	.512"	3.012"	1.024" DIA
11.0-20.1"	6.457"	.630"	6.142"	1.260" DIA
15.7-31.5"	12.008"	.709"	11.811"	1.417" DIA



2423-ES2

- Includes bore gages .7-2.0" and 2.0-5.9"
- Optional accessory:
 - Dial indicator (graduation .001" or .0001" or .00005")
 - Setting ring
 - Long handle (part no. 7352)



BORE GAGE SET

dial indicator is not included



Part No.	Range	Accuracy (without dial comparator)	Repeatability (without dial comparator)
2423-ES2	.7-5.9"	157µin	79µin



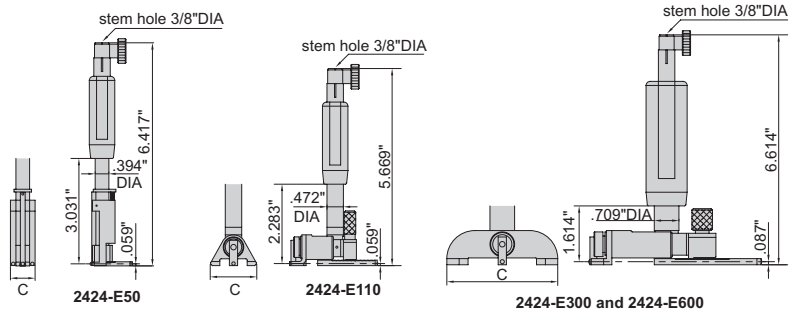
2424-E300

dial indicator is not included



BORE GAGE FOR BLIND HOLES

anvil



- To measure diameter of shallow and blind holes
- Optional accessory:
 - Dial indicator (graduation .001" or .0001" or .00005")
 - Setting ring
 - Long handle (part no. 7352)

Part No.	Range	Accuracy (without dial indicator)	Repeatability (without dial indicator)	C
2424-E50	.8-2.0"	157µin	39µin	.709"
2424-E110	2.0-4.3"	157µin	39µin	1.339"
2424-E300	4.3-11.8"	157µin	39µin	3.189"
2424-E600	11.8-23.6"	157µin	39µin	5.112"

ROTARY BORE GAGE

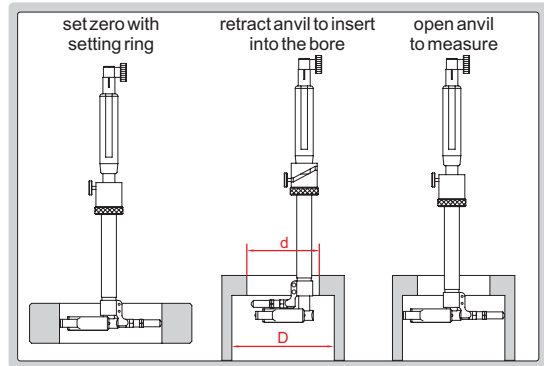
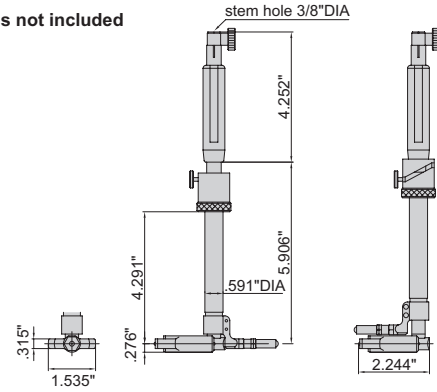


- Rotary anvil, to measure bores with small opening
 D: bore diameter to be measured,
 d: minimum opening diameter (see right drawing)
 $d = 2.244$ " ($D \leq 3.740$ "")
 $d = D - 1.496$ " ($D > 3.740$ "")
- Optional accessory:
 - Dial indicator (graduation .001" or .0001" or .00005")
 - Setting ring
 - Long handle (part no. 7352)



2921-E150

dial indicator is not included



Part No.	Range	Accuracy (without dial indicator)	Repeatability* (without dial indicator)
2921-E150	3.2-5.9"	79µin	39µin

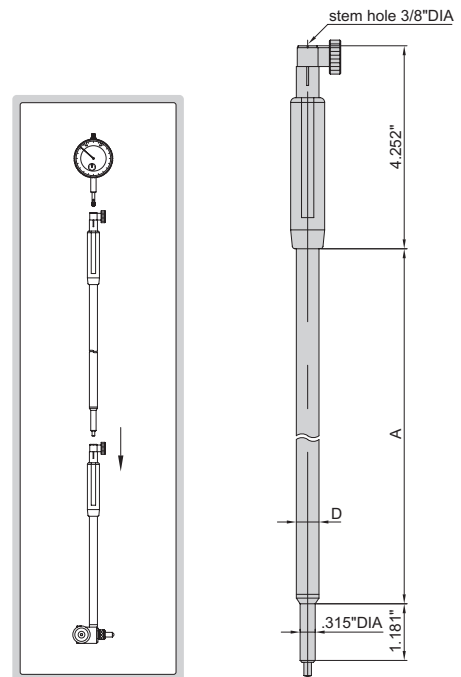
* Repeatability includes the error of rotary anvil

LONG HANDLE



- To assist deep-hole measurement
- Can be used for bore gages 2422, 2423, 2424 and 2921

7352-E500



Part No.	Applicable bore gages	A	D
7352-E500	above 1.4"	17.244"	.472"DIA
7352-E1000		36.929"	.472"DIA

BORE GAGE FOR SMALL HOLES

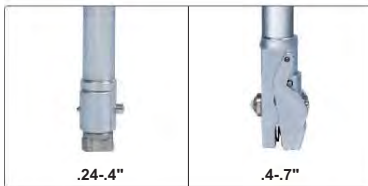
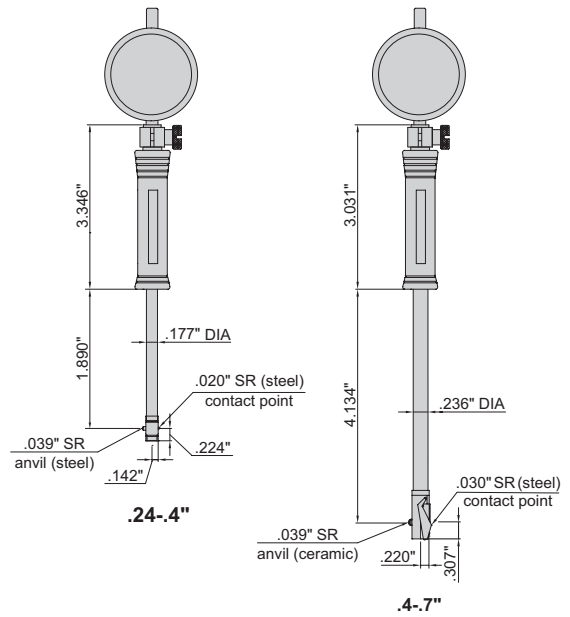


2323-04



2123-07A

DATA OUTPUT



Read the diameter directly, after inputting the size of setting ring.

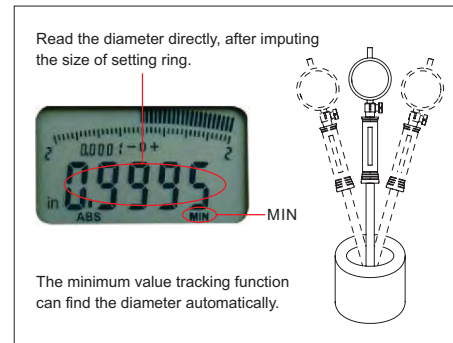
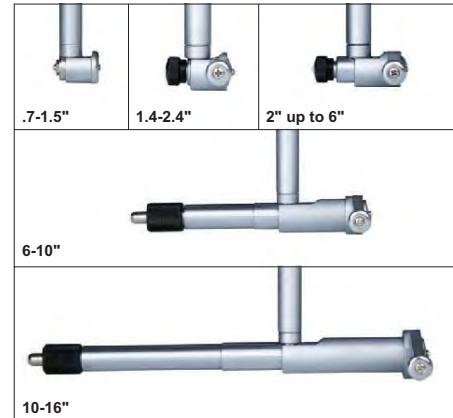
The minimum value tracking function can find the diameter automatically.

Optional accessory: setting ring

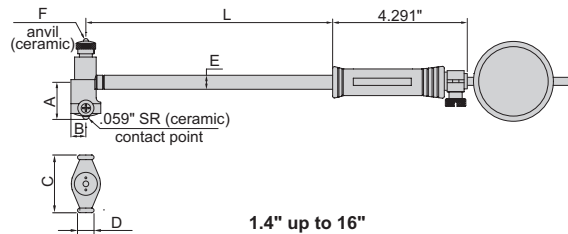
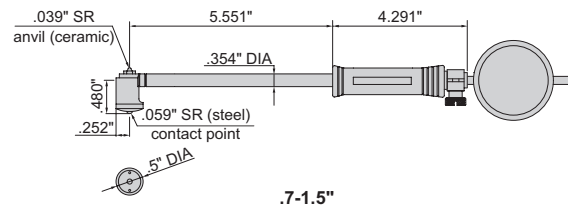
Part No.	Range	Indicator	Accuracy	Repeatability
2323-04	.24-.4"	dial indicator, range .25", graduation .0005"	±.00075"	.00025"
2323-07	.4-.7"		±.00075"	.00025"

Part No.	Range	Indicator	Accuracy	Repeatability
2123-04A	.24-.4"	electronic indicator, range .5"/12.7mm, resolution .0001"/0.002mm	±.00075"	.00025"
2123-07A	.4-.7"		±.00075"	.00025"

BORE GAGE



- Optional accessory:
setting ring, long handle (part no. 7351)

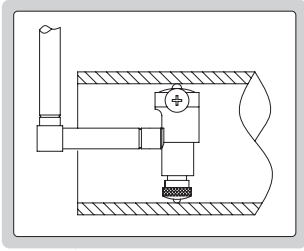


Part No.	Range	Indicator	Accuracy	Repeatability
2323-15	.7-1.5"	dial indicator, range .25", graduation .0005"	±.00075"	.00025"
2323-24	1.4-2.4"		±.0009"	.00025"
2323-6	2-6"		±.0009"	.00025"
2323-10	6-10"		±.0009"	.00025"
2323-16	10-16"		±.0009"	.00025"

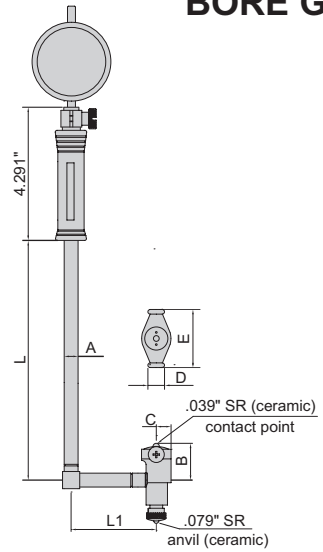
Part No.	Range	Indicator	Accuracy	Repeatability
2123-15A	.7-1.5"	digital indicator, range .5"/12.7mm, resolution .0001"/0.002mm	±.00075"	.00025"
2123-24A	1.4-2.4"		±.0009"	.00025"
2123-6A	2-6"		±.0009"	.00025"
2123-10A	6-10"		±.0009"	.00025"
2123-16A	10-16"		±.0009"	.00025"

Range	A	B	C	D	E	F	L
1.4-2.4"	.480"	.252"	1.063"	.512" DIA	.504" DIA	.079" R	5.551"
2-6"	1.024"	.354"	1.378"	.512" DIA	.504" DIA	.079" R	5.551"
6-10"	2.224"	.512"	2.933"	.591" DIA	.504" DIA	.079" R	9.488"
10-16"	3.406"	.591"	3.996"	.591" DIA	.571" DIA	.098" R	9.488"

BORE GAGE



2827-6

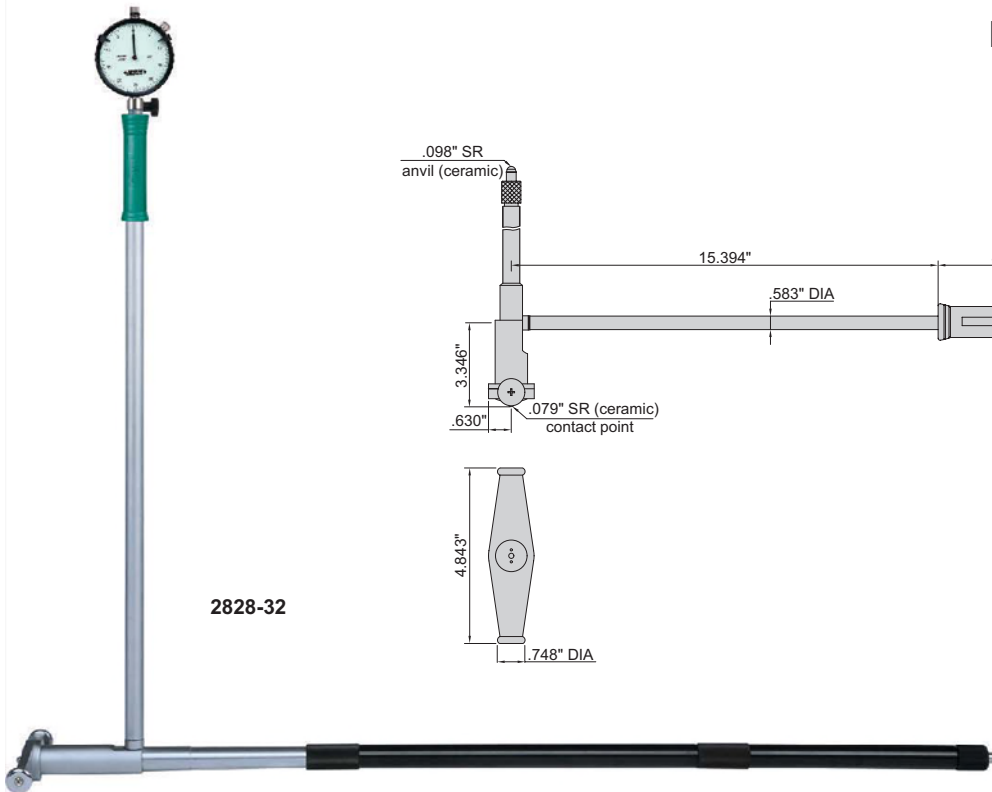


- Optional accessory: setting ring

Part No.	Range	Indicator	Accuracy	Repeatability
2827-6	2-6"	dial indicator	$\pm .0009"$.00025"
2827-10	6-10"	range .25", graduation .0005"	$\pm .0009"$.00025"
2827-16	10-16"		$\pm .0009"$.00025"

Range	A	B	C	D	E	L	L1
2-6"	.504" DIA	1.122"	.362"	.512" DIA	1.378"	5.551"	3.000"
6-10"	.571" DIA	2.441"	.500"	.512" DIA	2.933"	15.394"	3.937"
10-16"	.571" DIA	3.602"	.591"	.591" DIA	3.996"	15.394"	3.937"

BORE GAGE

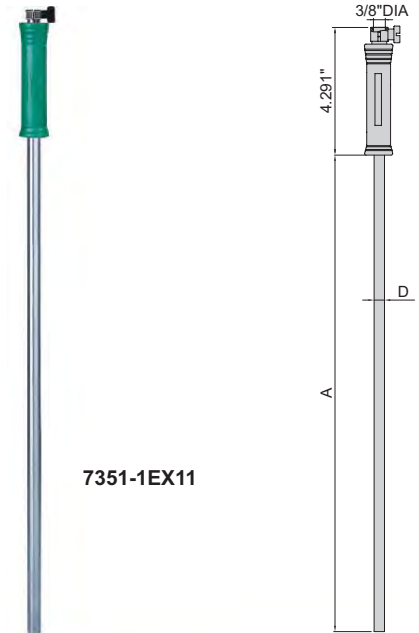


Part No.	Range	Indicator	Accuracy	Repeatability
2828-32	16-32"	dial indicator, range .25", graduation .0005"	$\pm .001"$.0001"

LONG HANDLE

- To assist deep-hole measurement
- Can be used for bore gages 2323 and 2123

Part No.	Applicable bore gages	A	D
7351-1EX11	1.4-2.4", 2-6"	18.7"	.512" DIA
7351-1EX12		38.5"	.512" DIA
7351-1EX21	6-10", 10-16"	18.9"	.571" DIA
7351-1EX22		38.5"	.571" DIA



7351-1EX11

ANVIL FOR BORE GAGES

- For 2323, 2123, 2827

Part No.	Applicable bore gages	Material of measuring face	Quantity per set	Measuring range of anvil
7350-E04	.24-.4"	steel	9pcs	.24", .26", .28", .3", .32", .34", .36", .38", .4"
7350-E07	.4-.7"	ceramic	9pcs	.4", .44", .48", .52", .58", .62", .64", .68", .7"
7350-E15	.7-1.5"	ceramic	10pcs	.7", .78", .86", .94", 1.02", 1.1", 1.18", 1.26", 1.34", 1.42"
7350-E24	1.4-2.4"	ceramic	6pcs	1.4", 1.6", 1.8", 2", 2.2", 2.4"
7350-E6	2-6"	ceramic	11pcs	2", 2.2", 2.4", 2.6", 2.8", 3", 3.2", 3.4", 3.6", 3.8", 4"
7350-E10	6-10"	ceramic	6pcs	6", 6.4", 6.8", 7.2", 7.6", 8"
7350-E16	10-16"	ceramic	6pcs	10", 10.4", 10.8", 11.2", 11.6", 12"

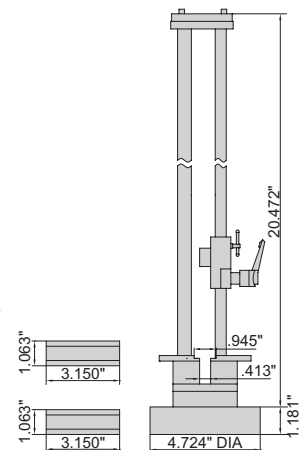
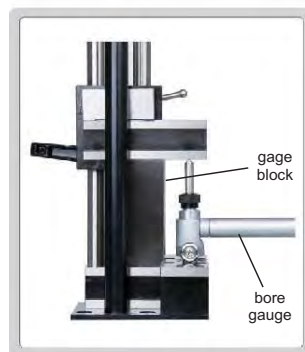


7350-E6

BORE GAGE SETTER

- Used together with gage blocks to set bore gages

Part No.	Setting range
2395-400	.7-16"



2395-400

SETTING RING

CAN SUPPLY CUSTOM SETTING RINGS FROM 1/16" TO 12", FOR EXAMPLE, .6726"



6313-0D8

- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Deviation is the difference between the ordered size and the size marked on the setting ring when supplied. For example, the ordered size is .2", the size marked on the setting ring when supplied may be .20008"

Manufacturer Inspection Certificate

INSIZE		Inspection Certificate			
		Unit: inch			
Product name	Setting Ring	Marked Size	0.69993		
Code No.	6313-0H7	Calibration Results	Diameter	at 0°	
Serial No.	2905149996		Top	0.69991	0.69994
Standard temperature	68 °F		Middle	0.69991	0.69994
Traceable to	Germany 10339/D-K-15015-01-02/2012-09		Bottom	0.69993	0.69994
Judgement	Passed		Average	0.69993	
Inspector	<i>S. Young</i>	Cylindricity	0.00002		
		Roundness	0.00003		

Diameter d**	Deviation	Roundness and cylindricity
.059-.098"	±.00006"	.000012"
.098"-.394"	±.00008"	.000016"
.394"-.709"	±.00010"	.000020"
.709"-.984"	±.00012"	.000024"
.984"-1.181"	±.00014"	.000024"
1.181"-1.967"	±.00014"	.000028"
1.967"-3.150"	±.00016"	.000032"
3.150"-3.937"	±.00016"	.000040"
3.937"-4.724"	±.00020"	.000039"
4.724"-7.087"	±.00024"	.000047"
7.087"-9.842"	±.00028"	.000055"
9.842"-12"	±.00032"	.000063"

** For example .709"-.984" means .709" DIA ≤ d < .984"DIA

Part No.	Diameter
6313-1H16*	1/16" DIA
6313-3H32*	3/32" DIA
6313-1H8*	1/8" DIA
6313-5H32*	5/32" DIA
6313-3H16*	3/16" DIA
6313-7H32*	7/32" DIA
6313-1H4*	1/4" DIA
6313-9H32*	9/32" DIA
6313-5H16*	5/16" DIA
6313-11H32*	11/32" DIA
6313-3H8*	3/8" DIA
6313-13H32*	13/32" DIA
6313-7H16*	7/16" DIA
6313-15H32*	15/32" DIA
6313-1H2*	1/2" DIA
6313-17H32*	17/32" DIA

Part No.	Diameter
6313-9H16*	9/16" DIA
6313-19H32*	19/32" DIA
6313-5H8*	5/8" DIA
6313-21H32*	21/32" DIA
6313-11H16*	11/16" DIA
6313-23H32*	23/32" DIA
6313-3H4*	3/4" DIA
6313-25H32*	25/32" DIA
6313-13H16*	13/16" DIA
6313-27H32*	27/32" DIA
6313-7H8*	7/8" DIA
6313-29H32*	29/32" DIA
6313-15H16*	15/16" DIA
6313-31H32*	31/32" DIA

Part No.	Diameter
6313-0D1*	.1" DIA
6313-0D16*	.16" DIA
6313-0D24*	.24" DIA
6313-0D275*	.275" DIA
6313-0D35*	.35" DIA
6313-0D425*	.425" DIA
6313-0D6*	.6" DIA
6313-0D65*	.65" DIA
6313-0D7*	.7" DIA
6313-0D8*	.8" DIA
6313-1*	1.0" DIA
6313-1D2*	1.2" DIA
6313-1D4*	1.4" DIA
6313-1D8*	1.8" DIA
6313-2*	2.0" DIA
6313-2D4*	2.4" DIA

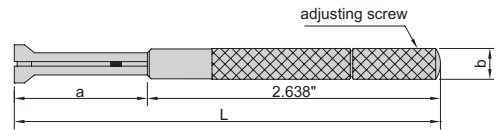
Part No.	Diameter
6313-2D5*	2.5" DIA
6313-2D8*	2.8" DIA
6313-3*	3.0" DIA
6313-3D2*	3.2" DIA
6313-3D5*	3.5" DIA
6313-3D6*	3.6" DIA
6313-4*	4.0" DIA
6313-5*	5.0" DIA
6313-6*	6.0" DIA
6313-7*	7.0" DIA
6313-8*	8.0" DIA
6313-9*	9.0" DIA
6313-10*	10.0" DIA
6313-11*	11.0" DIA
6313-12*	12.0" DIA

* Supplied with manufacturer inspection certificate

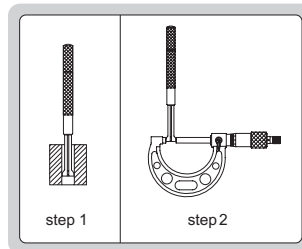
SMALL HOLE GAGE SET



4208-1



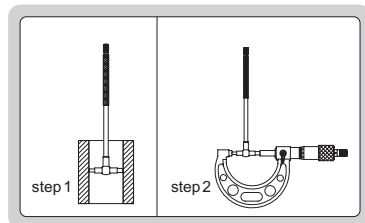
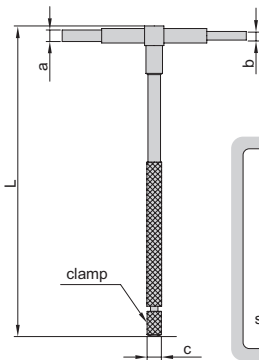
- 4 gages per set
- For small holes, slots and grooves, etc.
- Satin chrome finish



Range	L	a	b
.125 ~ .2"	3.543"	.886"	.217" DIA
.2 ~ .3"	3.843"	1.181"	.217" DIA
.3 ~ .4"	4.047"	1.378"	.335" DIA
.4 ~ .5"	4.252"	1.575"	.335" DIA

Part No.	Total range	Gages included
4208-1	.125 ~ .5"	.125 ~ .2", .2 ~ .3" .3 ~ .4", .4 ~ .5"

TELESCOPING GAGE SET



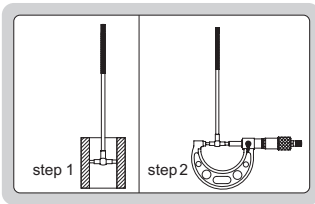
4206-1

Range	L	a	b	c
5/16 ~ 1/2"	4.528"	.154" DIA	.114" DIA	.244" DIA
1/2 ~ 3/4"	4.528"	.209" DIA	.150" DIA	.244" DIA
3/4 ~ 1-1/4"	4.528"	.209" DIA	.150" DIA	.244" DIA
1-1/4 ~ 2-1/8"	5.394"	.299" DIA	.240" DIA	.283" DIA
2-1/8 ~ 3-1/2"	5.394"	.299" DIA	.240" DIA	.283" DIA
3-1/2 ~ 6"	5.394"	.299" DIA	.240" DIA	.283" DIA

Part No.	Total Range	Gages Included
4206-1	5/16 ~ 6"	5/16 ~ 1/2", 1/2 ~ 3/4", 3/4 ~ 1-1/4" 1-1/4 ~ 2-1/8", 2-1/8 ~ 3-1/2", 3-1/2 ~ 6"

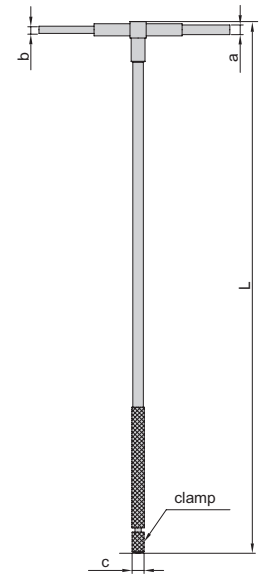
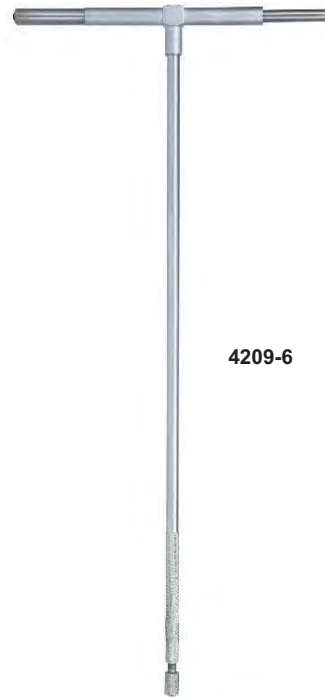
- 6 gages per set
- For quick measurement of inside diameter of holes and width of slots
- Satin chrome finish

LONG HANDLE TELESCOPING GAGE



- For quick measurement of inside diameter of deep holes and width of slots
- Satin chrome finish

Part No.	Range	L	a	b	c
4209-1	5/16 ~ 1/2"	9.843"	.154" DIA	.114" DIA	.244" DIA
4209-2	1/2 ~ 3/4"	9.843"	.209" DIA	.150" DIA	.244" DIA
4209-3	3/4 ~ 1-1/4"	9.843"	.209" DIA	.150" DIA	.244" DIA
4209-4	1-1/4 ~ 2-1/8"	11.811"	.299" DIA	.240" DIA	.283" DIA
4209-5	2-1/8 ~ 3-1/2"	11.811"	.299" DIA	.240" DIA	.283" DIA
4209-6	3-1/2 ~ 6"	11.811"	.299" DIA	.240" DIA	.283" DIA



ATTENTION:
NO DATA OUTPUT



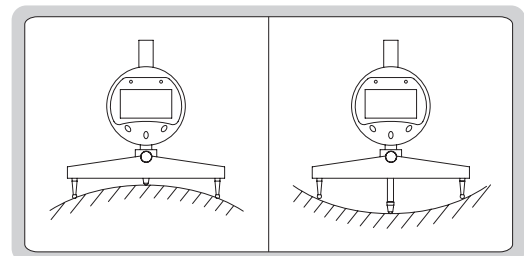
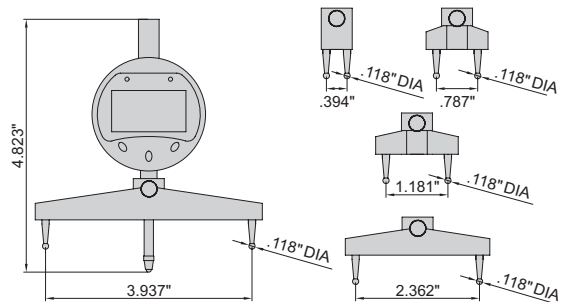
2183

- Measure radius of internal and external arcs
- Supplied with 5 jaws for different sizes of arc
- Battery CR2032

Part No.	Range of Radius (R)	Resolution	Accuracy (inch)
2183	.2-27.5"/5-700mm	.00005"/0.005mm	±0.01R*

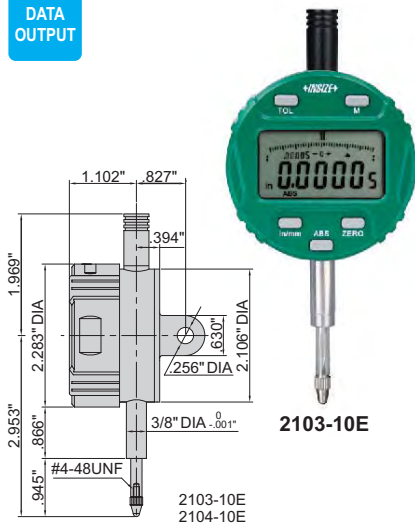
* R is the radius to be measured

ELECTRONIC RADIUS GAGE



ELECTRONIC INDICATOR

DATA OUTPUT



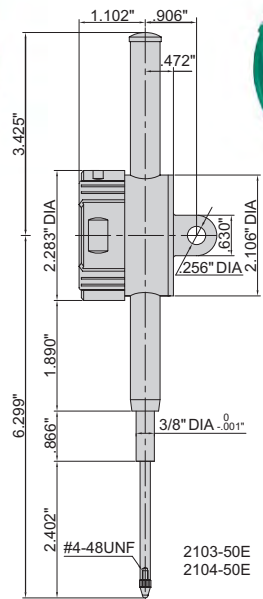
2103-10E

2103-10E
2104-10E



2104-25E

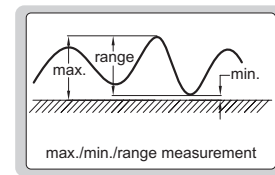
2103-25E
2104-25E



2103-50E

2103-50E
2104-50E

- Meet ASME B89.1.10M-2001
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 105), contact points (page 104)



Resolution .00005"/0.001mm

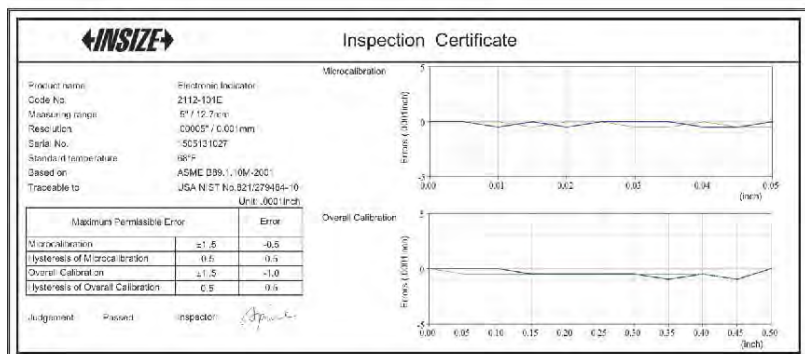
Part No.	Range	Accuracy	Hysteresis	Remark
2103-10E*	.5"/12.7mm	±.00015"	.00005"	lug back
2103-25E*	1"/25.4mm	±.00015"	.00005"	lug back
2103-50E*	2"/50.8mm	±.00015"	.00005"	lug back

Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	Remark
2104-10E*	.5"/12.7mm	±.0015"	.0005"	lug back
2104-25E*	1"/25.4mm	±.0015"	.0005"	lug back
2104-50E*	2"/50.8mm	±.0015"	.0005"	lug back

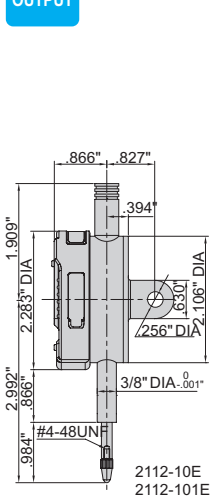
* Supplied with manufacturer inspection certificate traceable to NIST

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST, FOR INDICATORS

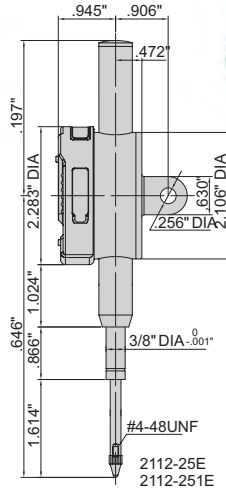


ELECTRONIC INDICATOR

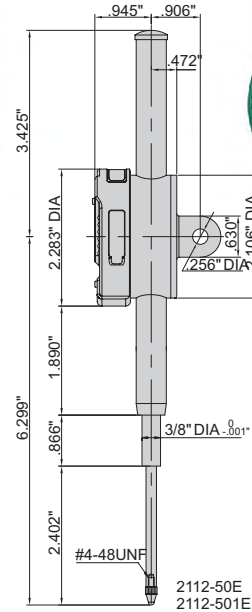
DATA OUTPUT



2112-10E
2112-101E



2112-25E
2112-251E



2112-50E
2112-501E

- Meet ASME B89.1.10M-2001
- Button function: on/off, inch/mm, zero
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system (part no. **7306-40**, **7302-SPC3A**, **7305-SPC1A**), backs (page 105), contact points (page 104)

Resolution .00005"/0.001mm

Part No.	Range	Accuracy	Hysteresis	Remark
2112-101E*	.5"/12.7mm	±.00015"	.00005"	lug back
2112-251E*	1"/25.4mm	±.00015"	.00005"	lug back
2112-501E*	2"/50.8mm	±.00015"	.00005"	lug back

Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	Remark
2112-10E*	.5"/12.7mm	±.0015"	.0005"	lug back
2112-25E*	1"/25.4mm	±.0015"	.0005"	lug back
2112-50E*	2"/50.8mm	±.0015"	.0005"	lug back

* Supplied with manufacturer inspection certificate traceable to NIST

COMPACT ELECTRONIC INDICATOR

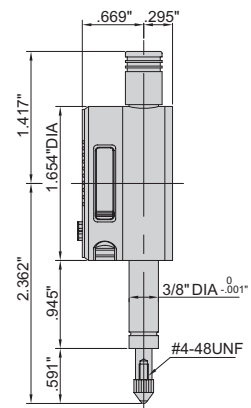
DATA OUTPUT

- Meet ASME B89.1.10M-2001
- Button function:
 - in/mm: short press for inch/metric conversion
 - long press to change measuring direction
 - ABS: short press for absolute/incremental measurement
 - long press to preset data
 - 0/ON: short press to turn on when power is off
 - short press to set zero when power is on
 - long press to turn off
- CR1632 battery, automatic power off
- Data output
- Optional accessory: data output system (part no. **7306-40**, **7302-SPC3A**, **7305-SPC1A**), contact points (page 104)

Part No.	Range	Resolution	Accuracy	Hysteresis	Remark
2114-5FE*	.2"/5mm	.0005"/0.01mm	±.0015"	.0005"	flat back
2114-51FE*	.2"/5mm	.00005"/0.001mm	±.00015"	.00005"	flat back



2114-51FE



* Supplied with manufacturer inspection certificate traceable to NIST

WATERPROOF ELECTRONIC INDICATOR

DATA
OUTPUT

WATERPROOF



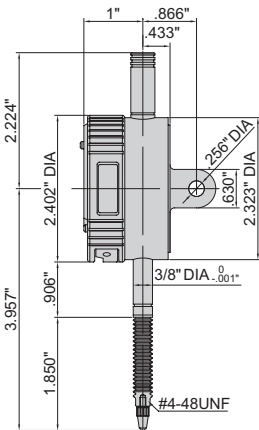
2115-10E



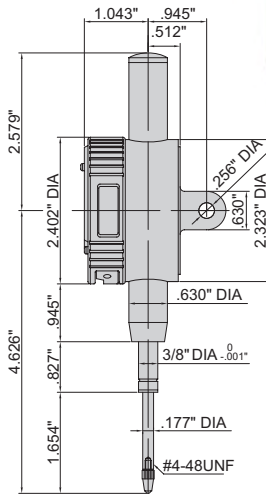
2115-25E



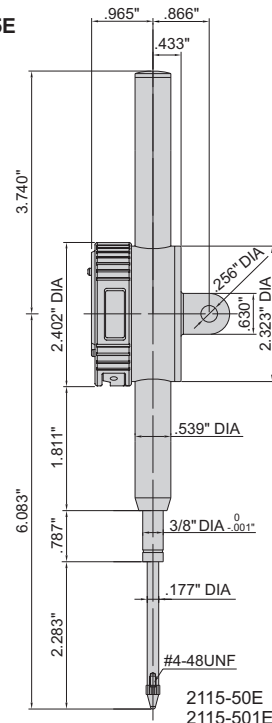
2115-50E



2115-10E
2115-101E



2115-25E
2115-251E



2115-50E
2115-501E

Resolution .00005"/0.001mm

Part No.	Range	Dust/waterproof	Accuracy	Hysteresis	Remark
2115-101E*	.5"/12.7mm	IP65	±.00015"	.00005"	lug back
2115-251E*	1"/25.4mm	IP54	±.00015"	.00005"	lug back
2115-501E*	2"/50.8mm	IP54	±.00015"	.00005"	lug back

Resolution .0005"/0.01mm

Part No.	Range	Dust/waterproof	Accuracy	Hysteresis	Remark
2115-10E*	.5"/12.7mm	IP65	±.0015"	.0005"	lug back
2115-25E*	1"/25.4mm	IP54	±.0015"	.0005"	lug back
2115-50E*	2"/50.8mm	IP54	±.0015"	.0005"	lug back

- Meet ASME B89.1.10M-2001
- Dust/waterproof
- Button function: on/off, zero, inch/mm
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system (part no. **7306-40**, **7302-SPC3A**, **7305-SPC1A**), backs (page 105), contact points (page 104)

* Supplied with manufacturer inspection certificate traceable to NIST

DATA
OUTPUT

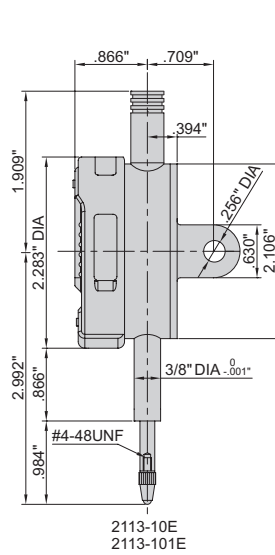
NO AUTO POWER OFF ELECTRONIC INDICATOR



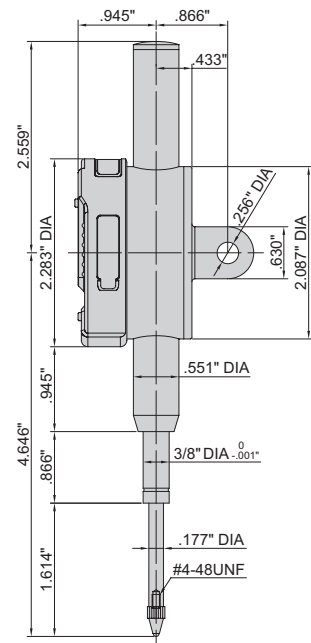
2113-10E



2113-251E



2113-10E
2113-101E



2113-25E
2113-251E

data output cable (optional)



- Meet ASME B89.1.10M-2001
- No auto power off, tracking the deformation of mould and steel structure for a long time
- Low power consumption
- Button function: on/off, zero, inch/mm
- CR2032 battery
- Data output
- Optional accessory: data output cable (Part No. 7305-SPC1A)
- Optional accessory: backs (page 105), contact points (page 104)

Resolution .00005"/0.001mm

Part No.	Range	Accuracy	Hysteresis	Remark
2113-101E*	.5"/12.7mm	±.00015"	.00005"	lug back
2113-251E*	1"/25.4mm	±.00015"	.00005"	lug back

Resolution .0005"/0.01mm

Part No.	Range	Accuracy	Hysteresis	Remark
2113-10E*	.5"/12.7mm	±.0015"	.0005"	lug back
2113-25E*	1"/25.4mm	±.0015"	.0005"	lug back

* Supplied with manufacturer inspection certificate traceable to NIST



SHOCK
PROOF



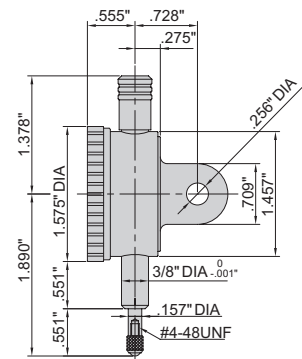
2832-02

- Meet ASME B89.1.10M-2001
- Shockproof
- Lug back
- Supplied with limit pointers
- Optional accessory: backs (page 105), contact points (page 104)

Part No.	Range	Graduation	Accuracy	Range/rev	Dial reading
2832-02*	.2"	.001"	±.001"	.1"	0-100

* Supplied with manufacturer inspection certificate traceable to NIST

COMPACT DIAL INDICATOR

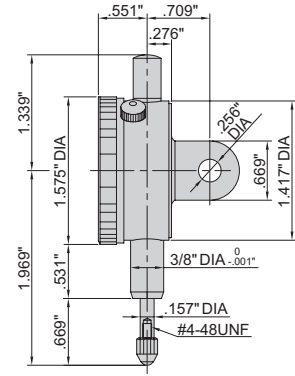


COMPACT DIAL INDICATOR



2304-01

- Meet ASME B89.1.10M-2001
- Lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 105), contact points (page 104)



Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2304-01*	.1"	.001"	—	±.001"	.1"	0-100
2304-02*	.2"	.001"	—	±.001"	.1"	0-100
2304-025*	.25"	.001"	±.001"	±.001"	.1"	0-100
2304-015*	.1"	.0005"	—	±.0005"	.05"	0-50
2304-0205*	.2"	.0005"	±.0005"	±.0015"	.05"	0-50
2304-0255*	.25"	.0005"	±.0005"	±.0015"	.05"	0-50

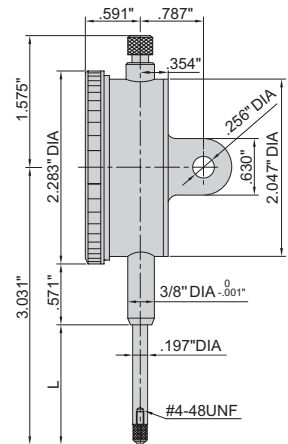
* Supplied with manufacturer inspection certificate traceable to NIST

DIAL INDICATOR



2837-1

- Meet ASME B89.1.10M-2001
- Lug back
- Supplied with limit pointers
- Optional accessory: backs (page 105), contact points (page 104)



Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading	L
			First 2.5 rev	Overall			
2837-05*	.5"	.001"	±.001"	±.002"	.1"	0-100	.827"
2837-1*	1"	.001"	±.001"	±.002"	.1"	0-100	1.319"

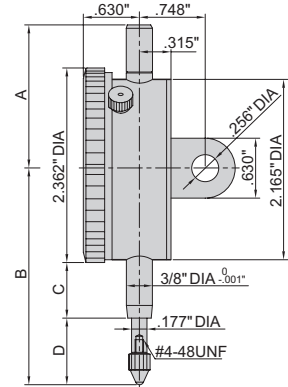
* Supplied with manufacturer inspection certificate traceable to NIST

DIAL INDICATOR



2307-1

- Meet ASME B89.1.10M-2001
- Lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 105), contact points (page 104)



Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2307-025 *	.25"	.001"	±.001"	±.001"	.1"	0-100
2307-05 *	.5"	.001"	±.001"	±.002"	.1"	0-100
2307-1 *	1"	.001"	±.001"	±.002"	.1"	0-100
2307-2 *	2"	.001"	±.001"	±.004"	.1"	0-100
2307-0255 *	.25"	.0005"	±.0005"	±.0015"	.05"	0-50
2307-055 *	.5"	.0005"	±.0005"	±.0015"	.05"	0-50
2307-105 *	1"	.0005"	±.0005"	±.002"	.05"	0-50
2307-205 *	2"	.0005"	±.0005"	±.002"	.05"	0-50

Range	A	B	C	D
.25"	1.811"	2.953"	.787"	.984"
.5"	1.811"	2.953"	.787"	.984"
1"	1.811"	3.346"	.787"	1.378"
2"	4.370"	5.472"	1.969"	2.323"

* Supplied with manufacturer inspection certificate traceable to NIST

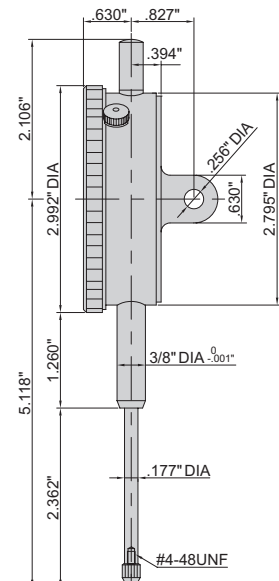
LARGE DIAL FACE DIAL INDICATOR



2312-15

- Meet ASME B89.1.10M-2001
- Lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: contact points (page 104)

Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2312-15 *	1.5"	.001"	±.001"	±.004"	.1"	0-100
2312-2 *	2"	.001"	±.001"	±.004"	.1"	0-100



* Supplied with manufacturer inspection certificate traceable to NIST

PRECISION DIAL INDICATOR

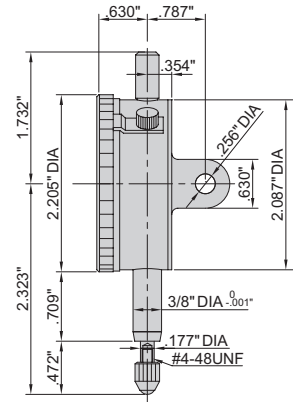
SHOCK PROOF

JEWELLED BEARING



2315-05

- Meet ASME B89.1.10M-2001
- Shockproof
- Jeweled bearing
- Lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 105), contact points (page 104)



Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2315-05*	.05"	.0001"	±.0001"	±.0003"	.01"	0-100

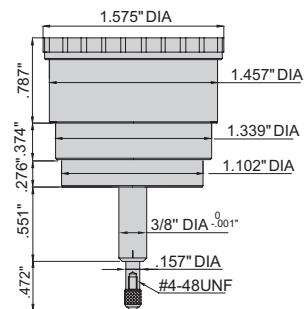
* Supplied with manufacturer inspection certificate traceable to NIST

BACK PLUNGER TYPE DIAL INDICATOR



2833-02

- Meet ASME B89.1.10M-2001
- Supplied with limit pointers
- Optional accessory: contact points (page 104)



Part No.	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2833-02*	.2"	.001"	±.001"	±.002"	.02"	0-10-0

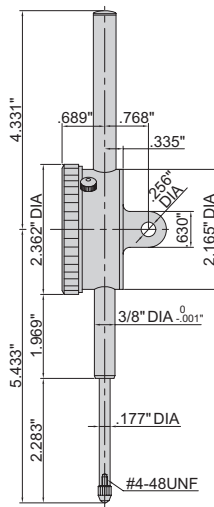
* Supplied with manufacturer inspection certificate traceable to NIST

LONG STROKE DIAL INDICATOR

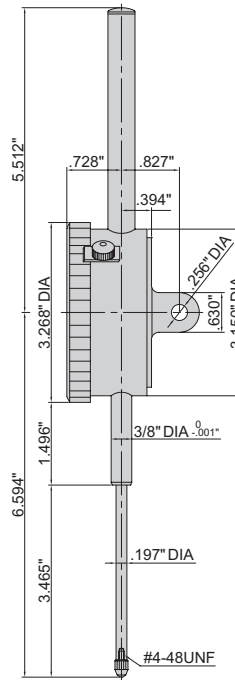


2326-2

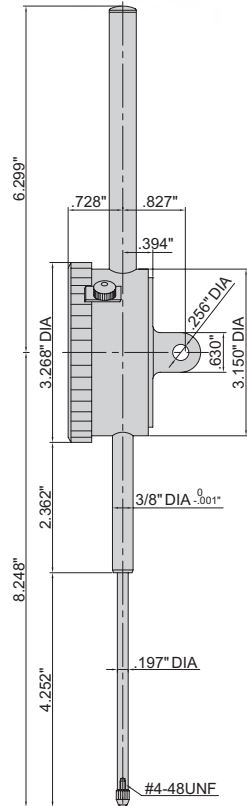
- Graduation: .001"
- Lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 105), contact points (page 104)



2326-2



2326-3



2326-4

Part No.	Range	Accuracy		Range/ rev	Dial reading
		First 2.5 rev	Overall		
2326-2 *	2"	±.001"	±.004"	.1"	0-100
2326-3 **	3"	±.001"	±.005"	.1"	0-100
2326-4 **	4"	±.001"	±.005"	.1"	0-100

* Supplied with manufacturer inspection certificate traceable to NIST

** 2326-3 and 2326-4 can only be used vertically



Part No.

7332

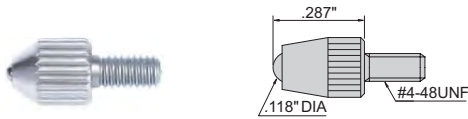
7332



SPINDLE LIFT KNOB

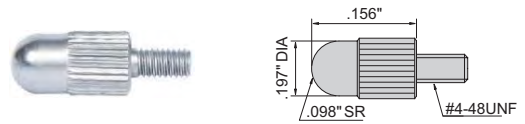
- For dial/electronic indicators with spindle diameter .177" DIA or .197" DIA

BALL POINT



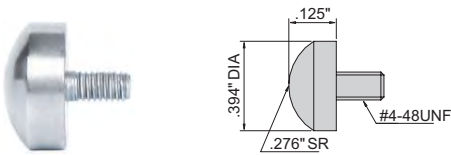
Part No.	Material of measuring face
6282-0102	carbide

SHELL TYPE POINT



Part No.	Material of measuring face
6282-0201	steel

SPHERICAL POINT



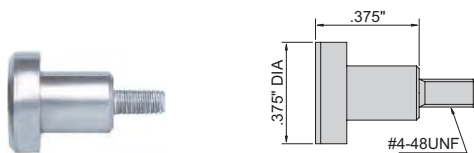
Part No.	Material of measuring face
6282-0402	steel

CONICAL POINT



Part No.	Material of measuring face
6282-0702	steel

FLAT POINT



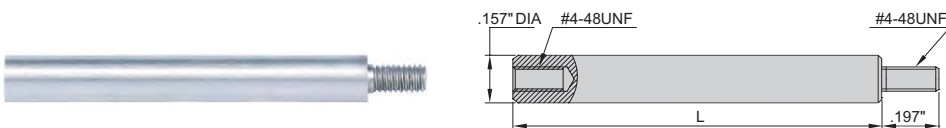
Part No.	Material of measuring face
6282-1207	steel

ROLLER POINT



Part No.	Material of measuring face
6282-1902	steel

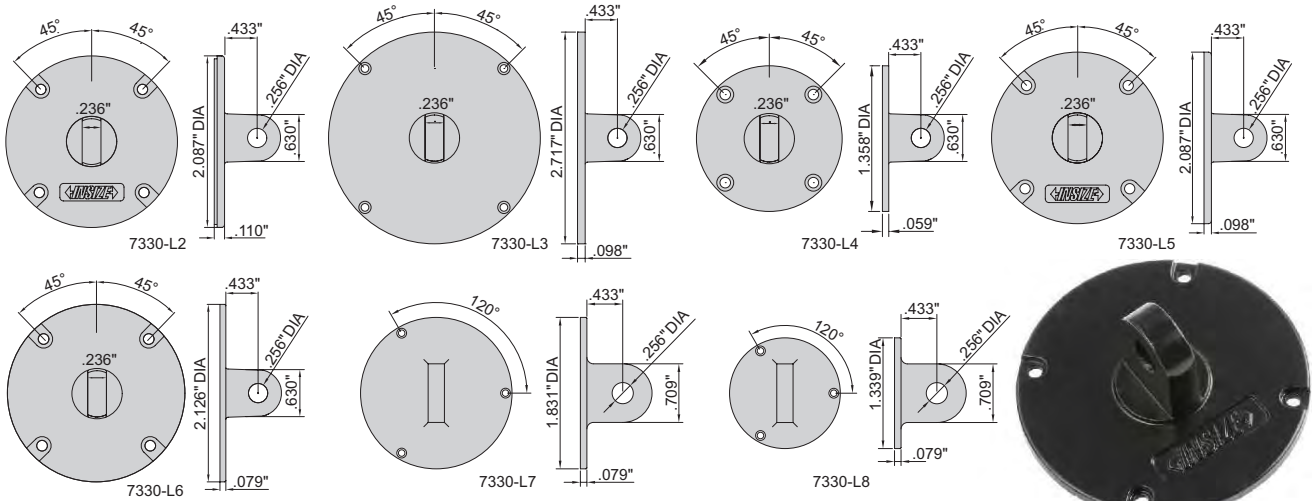
EXTENSION ROD



6282-2018

Part No.	Material	L
6282-2018	steel	1"
6282-2019	steel	2"
6282-2020	steel	4"

LUG BACK



Part No.	For electronic/dial indicators	Page
7330-L2	2315	102
7330-L3	2326-3	103
	2326-4	103
7330-L4	2304	100
7330-L5	2103	96
	2104	96
	2112	97

Part No.	For electronic/dial indicators	Page
7330-L5	2113	99
	2115	98
7330-L6	2307	101
	2326-2	103
7330-L7	2837	100
7330-L8	2832	99

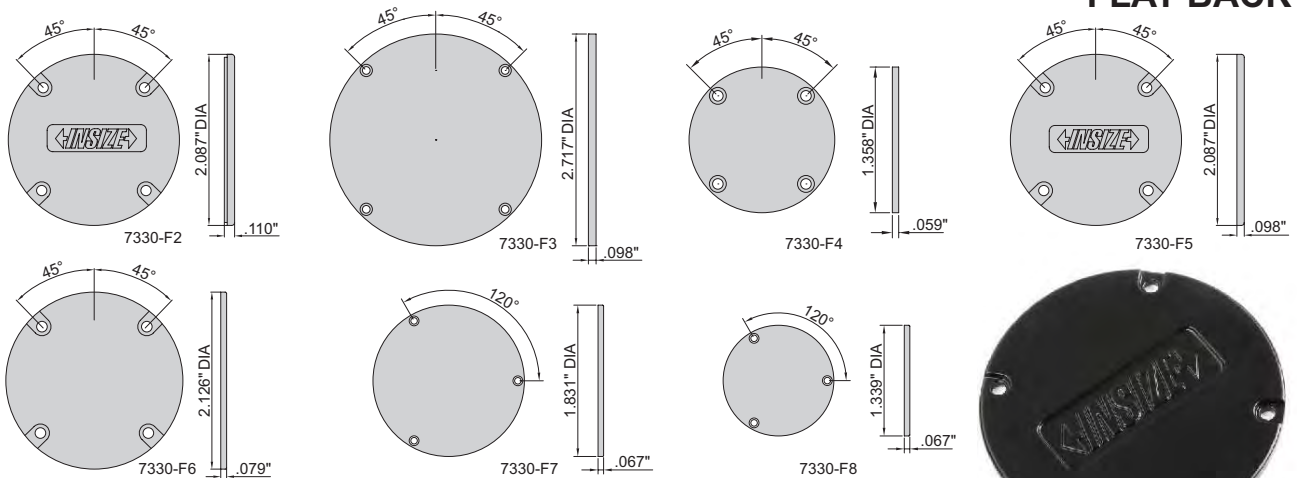


7330-L2



7330-L8

FLAT BACK



Part No.	For electronic/dial indicators	Page
7330-F2	2315	102
7330-F3	2326-3	103
	2326-4	103
7330-F4	2304	100
7330-F5	2103	96
	2104	96
	2112	97

Part No.	For electronic/dial indicators	Page
7330-F5	2113	99
	2115	98
7330-F6	2307	101
	2326-2	103
7330-F7	2837	100
7330-F8	2832	99



7330-F2



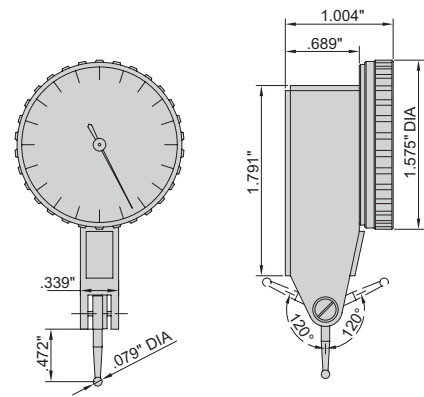
7330-F8

PRECISION DIAL TEST INDICATOR

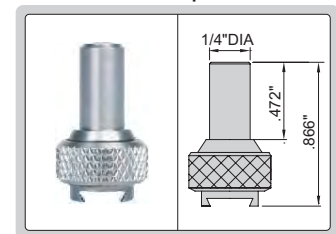


2834-008

- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: 1/4" DIA
- Optional accessory: styli (page 109)



clamp



Part No.	Range	Graduation	Accuracy	Range/rev	Dial reading
2834-008*	.008"	.0001"	±.0001"	.008"	0-4-0

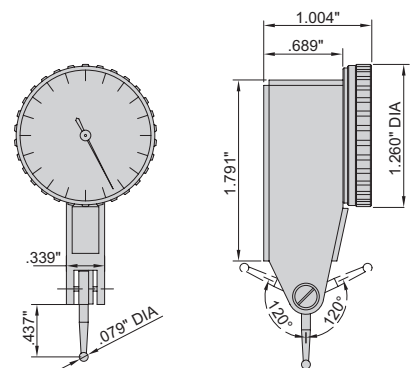
*Supplied with manufacturer inspection certificate traceable to NIST

DIAL TEST INDICATOR

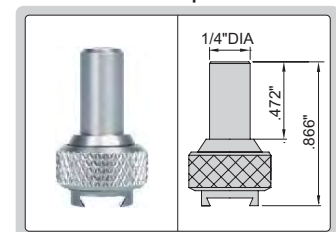


2835-03

- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: 1/4" DIA
- Optional accessory: styli (page 109)



clamp



Part No.	Range	Graduation	Accuracy	Range/rev	Dial reading
2835-03 *	.03"	.0005"	±.0005"	.015"	0-15-0

*Supplied with manufacturer inspection certificate traceable to NIST

JEWELLED BEARING

DIAL TEST INDICATOR

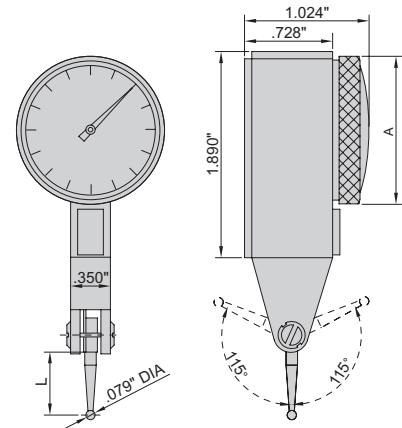


2380-31

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 109)

Part No.	Range	Graduation	Accuracy	Dial reading	A	L
2380-31*	.03"	.001"	±.001"	0-15-0	1.181" DIA	.50"
2380-35*	.03"	.0005"	±.0005"	0-15-0	1.181" DIA	.50"
2380-301*	.008"	.0001"	±.0001"	0-40-0	1.181" DIA	.563"
2381-31*	.03"	.001"	±.001"	0-15-0	1.476" DIA	.50"
2381-35*	.03"	.0005"	±.0005"	0-15-0	1.476" DIA	.50"
2381-301*	.008"	.0001"	±.0001"	0-40-0	1.476" DIA	.563"

* Supplied with manufacturer inspection certificate traceable to NIST



clamps



JEWELLED BEARING

BACK PLUNGER TYPE DIAL TEST INDICATOR

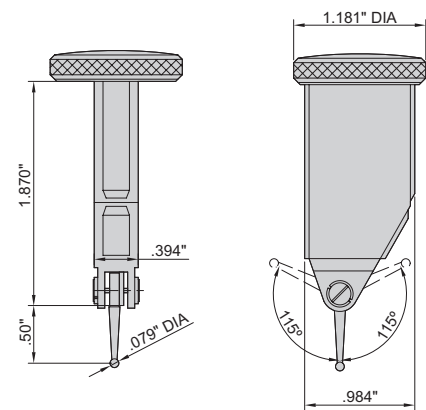


2398-03

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 109)

Part No.	Range	Graduation	Accuracy	Dial reading
2398-03*	.03"	.0005"	±.0005"	0-15-0

* Supplied with manufacturer inspection certificate traceable to NIST



clamps



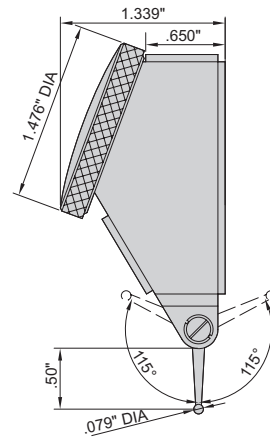
DIAL TEST INDICATOR

JEWELLED BEARING

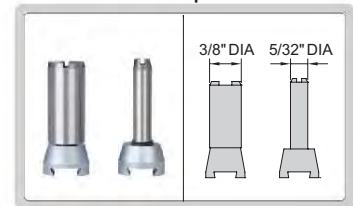


2399-03

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 109)



clamps



Part No.	Range	Graduation	Accuracy	Dial reading
2399-03*	.03"	.0005"	±.0005"	0-15-0

* Supplied with manufacturer inspection certificate traceable to NIST

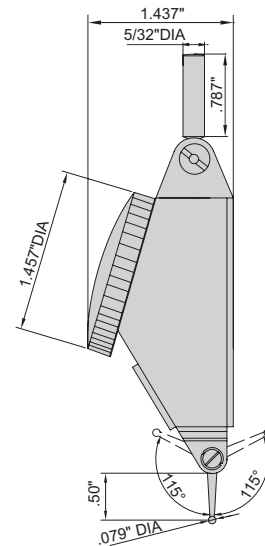
LARGE RANGE DIAL TEST INDICATOR

JEWELLED BEARING



2386-006A

- Jeweled bearing
- Steel contact point
- Two measuring directions
- Anti magnetic body
- Supplied with one clamp: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 109)



clamps



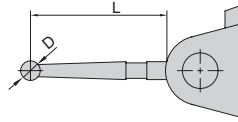
Part No.	Range	Graduation	Accuracy	Dial reading
2386-006A*	.06"	.0005"	±.0015"	0-15-0

* Supplied with manufacturer inspection certificate

STYLI FOR DIAL TEST INDICATORS



6284-10

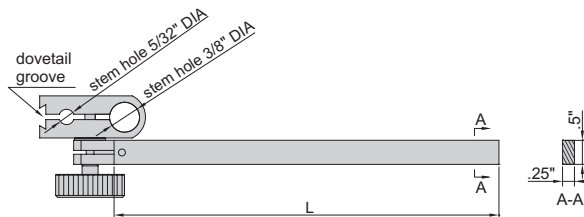


Part No.	For dial test indicator	Material of contact point	L	D
6284-91	2834-008	carbide	.472"	.039"DIA
6284-92		carbide	.472"	.079"DIA
6284-93		carbide	.472"	.118"DIA
6284-94	2835-03	carbide	.437"	.039"DIA
6284-95		carbide	.437"	.079"DIA
6284-96		carbide	.437"	.118"DIA
6284-9	2380-31, 2380-35, 2381-31, 2381-35, 2398-03, 2399-03, 2386-006A	steel	.50"	.039"DIA
6284-10		carbide	.50"	.079"DIA
6284-11		Ruby	.50"	.079"DIA
6284-12		carbide	.50"	.118"DIA
6284-13	2380-301, 2381-301	steel	.563"	.039"DIA
6284-14		carbide	.563"	.079"DIA
6284-15		Ruby	.563"	.079"DIA
6284-16		carbide	.563"	.118"DIA

DIAL TEST INDICATOR HOLDER



6293-3



Part No.	Stem section	Stem length (L)
6293-3	.25x.5"	4"



DIAL TEST INDICATOR HOLDER

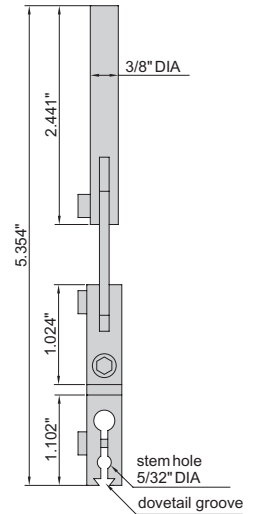


6296-2

- Supplied with fixing spanner

Part No.

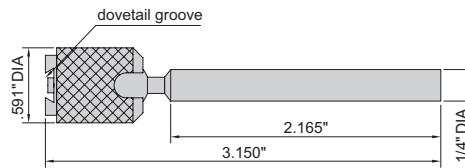
6296-2



DIAL TEST INDICATOR UNIVERSAL HOLDER



6293-5



Part No.

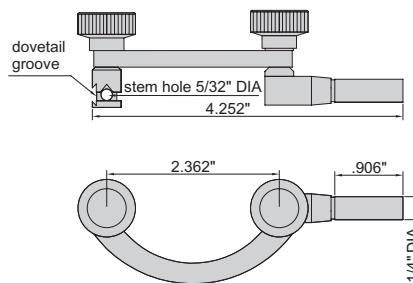
6293-5

- Set the indicators at the desired attitude to the workpiece

DIAL TEST INDICATOR CENTERING HOLDER



6291-2



Part No.

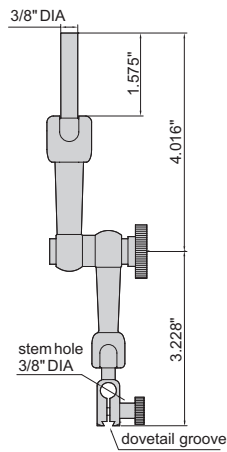
6291-2

- Center cylinders or holes on a machine tools

DIAL TEST INDICATOR CENTERING HOLDER



6295-1AE



- Center cylinders or holes on a machine tools
- Can be used with dial test indicators

Part No.

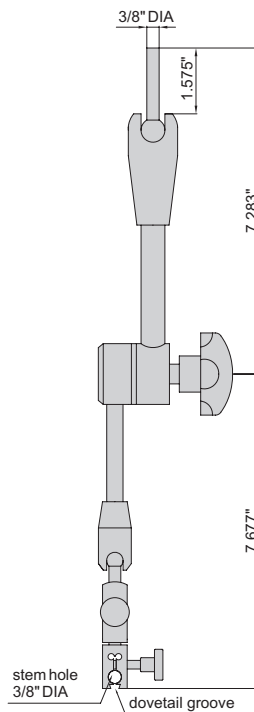
6295-1AE



INDICATOR CENTERING HOLDER



6294-1AE



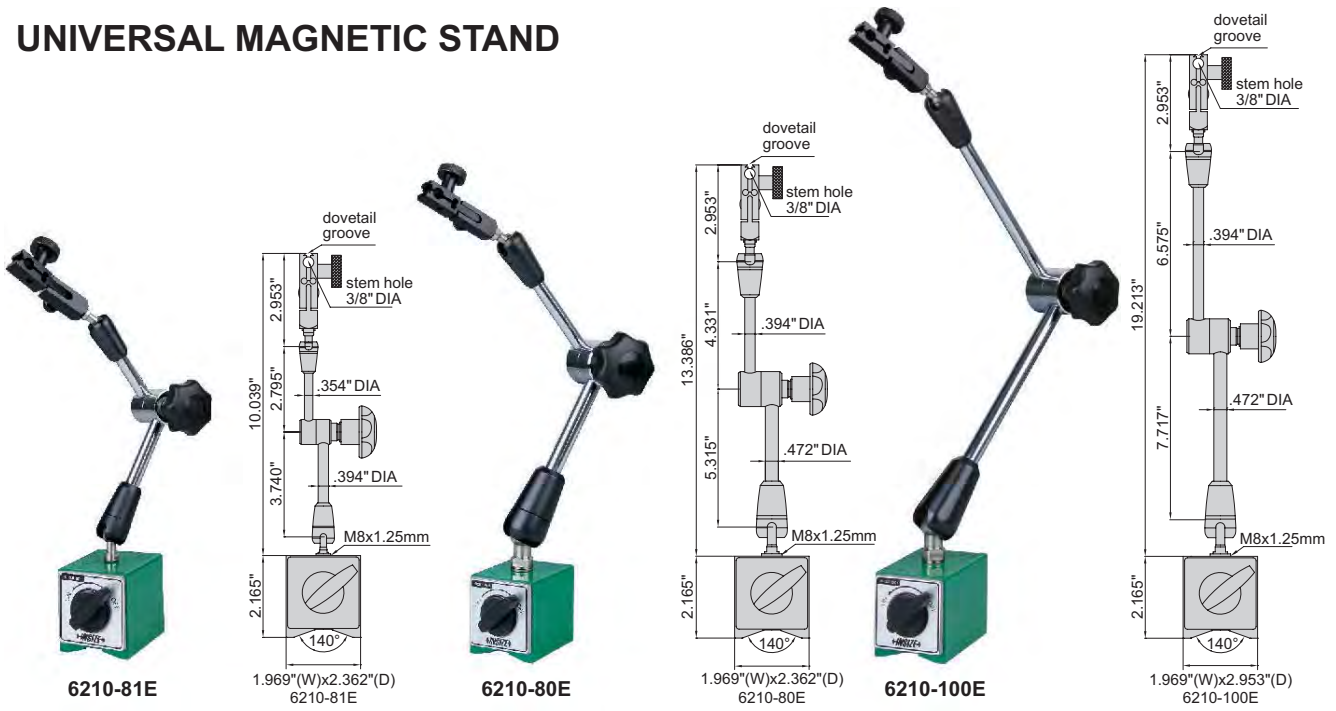
- Center cylinders or holes on machine tools
- Can be used with dial test indicators or dial indicators

Part No.

6294-1AE



UNIVERSAL MAGNETIC STAND



6210-81E

6210-80E

6210-100E

■ For electronic/dial indicators and dial test indicators

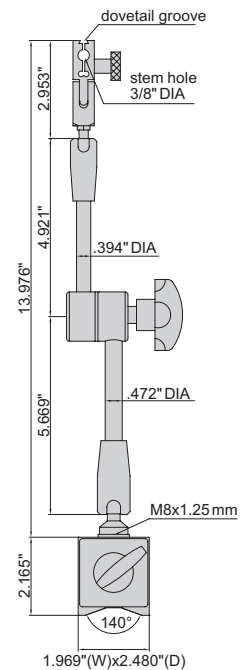
Part No.	Magnetic force	Applicable holding stem	Remark
6210-81E	176lbf	3/8" DIA	with fine adjustment and dovetail groove
6210-80E	176lbf	3/8" DIA	with fine adjustment and dovetail groove
6210-100E	220lbf	3/8" DIA	with fine adjustment and dovetail groove

UNIVERSAL MAGNETIC STAND

ATTENTION:
LOW LOCKING FORCE



6208-80E



■ For electronic/dial indicators and dial test indicators

Part No.	Magnetic force	Applicable holding stem	Remark
6208-80E	176lbf	3/8" DIA	with fine adjustment and dovetail groove

MAGNETIC STAND



6200-60



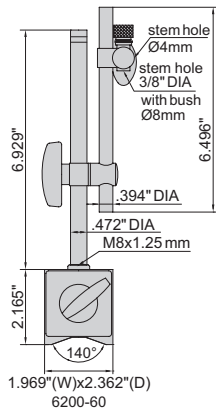
6201-60



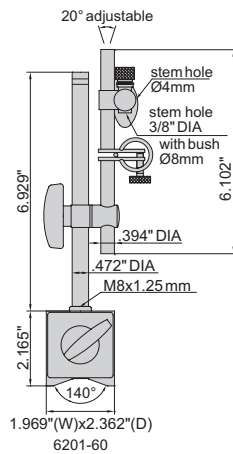
6202-80



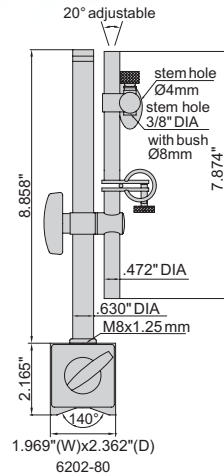
6202-100



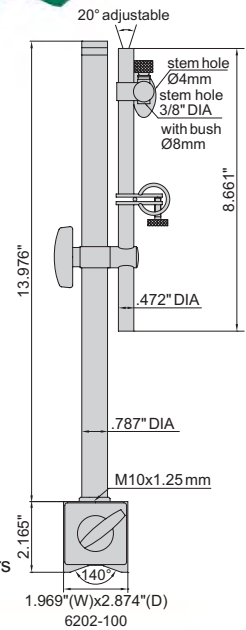
6200-60



6201-60



6202-80

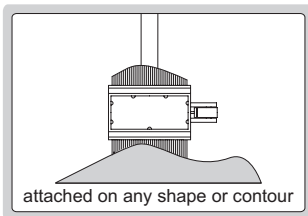


6202-100

Part No.	Magnetic force	Applicable holding stem	Remark
6200-60	132lbf	3/8" DIA, Ø8mm, Ø4mm	without fine adjustment
6201-60	132lbf	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment
6202-80	176lbf	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment
6202-100	220lbf	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment

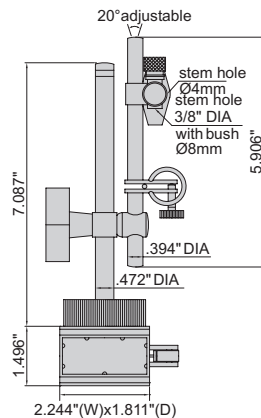
■ For electronic/dial indicators and dial test indicators

MAGNETIC STAND FOR UNEVEN SURFACE



- For electronic/dial indicators and dial test indicators
- With fine adjustment

Part No.	Magnetic force	Applicable holding stem
6215-60	132lbf	3/8" DIA, Ø8mm, Ø4mm



6215-60

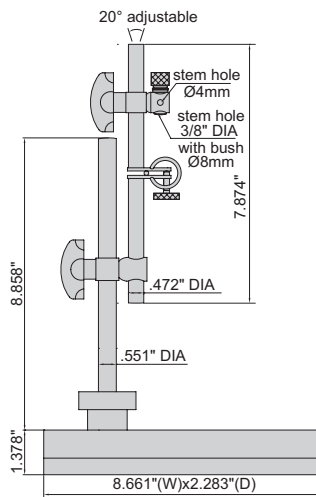


6215-60

UNIVERSAL STAND

- For electronic/dial indicators and dial test indicators
- With fine adjustment

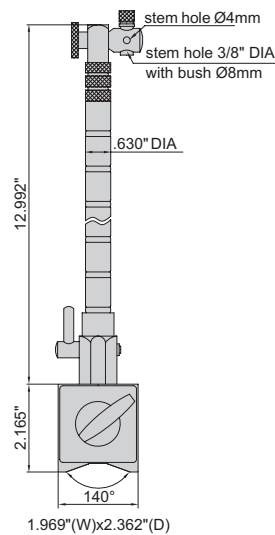
Part No.	Applicable holding stem
6214-A	3/8" DIA, Ø8mm, Ø4mm



FLEX ARM MAGNETIC STAND

- For dial test indicators

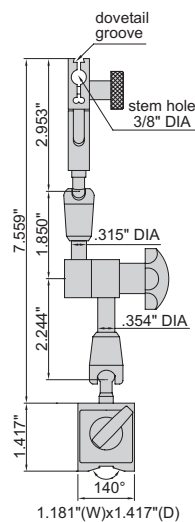
Part No.	Magnetic force	Applicable holding stem
6207-80A	176lbf	3/8" DIA, Ø8mm, Ø4mm



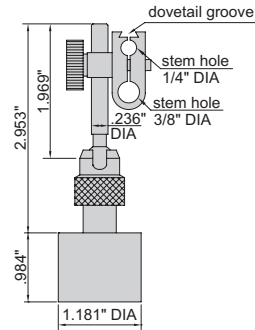
MINI MAGNETIC STAND

- For dial test indicators
- With fine adjustment and dovetail groove

Part No.	Magnetic force	Applicable holding stem
6224-40E	88lbf	3/8" DIA



6211-10E

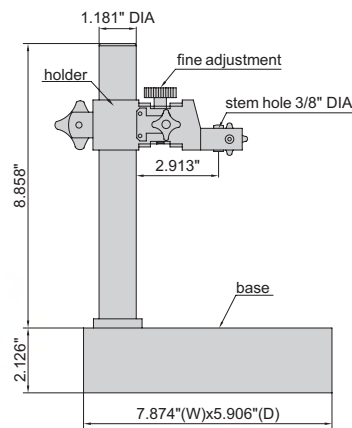


MINI MAGNETIC STAND

- For dial test indicators
- With dovetail groove

Part No.	Magnetic force	Applicable holding stem
6211-10E	22lbf	1/4" DIA, 3/8" DIA

6866-150E



GRANITE COMPARATOR STAND

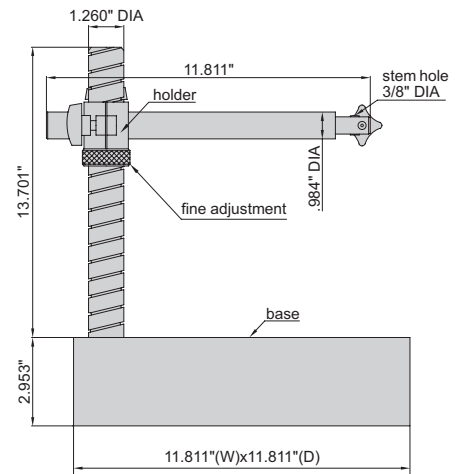
- Vertical travel of holder: 5.906"
- Fine adjustment range: .079"

Part No.	Applicable holding stem	Base
6866-150E	3/8" DIA	flatness 98μin

6867-250E



GRANITE COMPARATOR STAND



- Vertical travel of holder: 9.843"
- Fine adjustment range: entire stroke

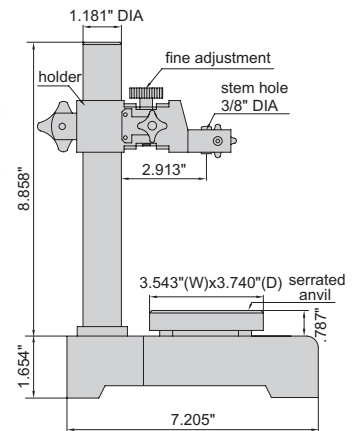
Part No.	Applicable holding stem	Base
6867-250E	3/8" DIA	flatness 110μin

DIAL GAGE STAND

- Vertical travel of holder: 5.906"
- Fine adjustment range: .079"

Part No.	Applicable holding stem	Anvil
6863-150E	3/8" DIA	serrated, flatness 59µin, hardness HRC60±2

6863-150E

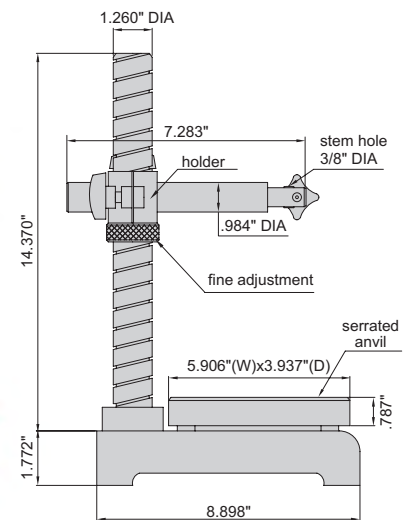


COMPARATOR STAND

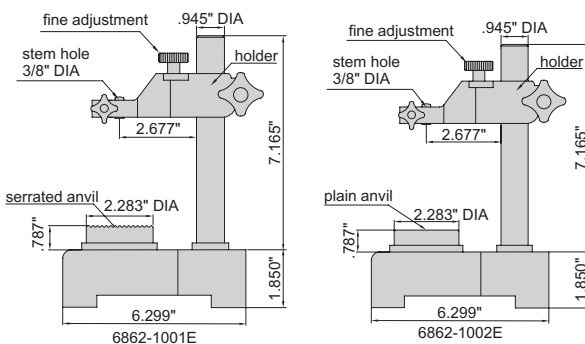
- Vertical travel of holder: 9.843"
- Fine adjustment range: entire stroke

Part No.	Applicable holding stem	Anvil
6864-250E	3/8" DIA	serrated, flatness 59µin, hardness HRC60±2

6864-250E



DIAL GAGE STAND



6862-1001E

6862-1002E



- Vertical travel of holder: 3.937"
- Fine adjustment range: .079"

Part No.	Applicable holding stem	Anvil
6862-1001E	3/8" DIA	serrated, flatness 59µin, hardness HRC60±2
6862-1002E	3/8" DIA	plain, flatness 59µin, hardness HRC60±2

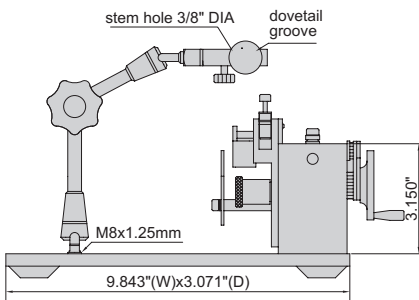
CONCENTRICITY GAGE



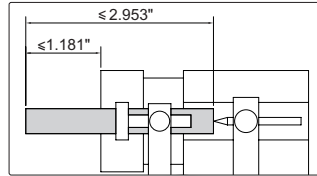
4789-1E



4789-3E



maximum workpiece length 2.953",
maximum outstretch length 1.181"



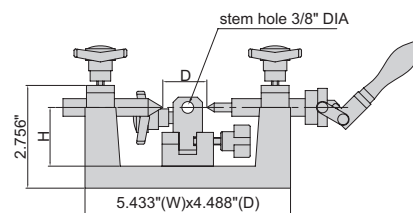
- Accuracy .00008"
- Optional accessory: dial test indicator, mini magnetic stand (part no. 6224-40E)

Part No.	Applicable diameter
4789-1E	.138" DIA-.984" DIA
4789-3E	.039" DIA-.984" DIA

MINI BENCH CENTER



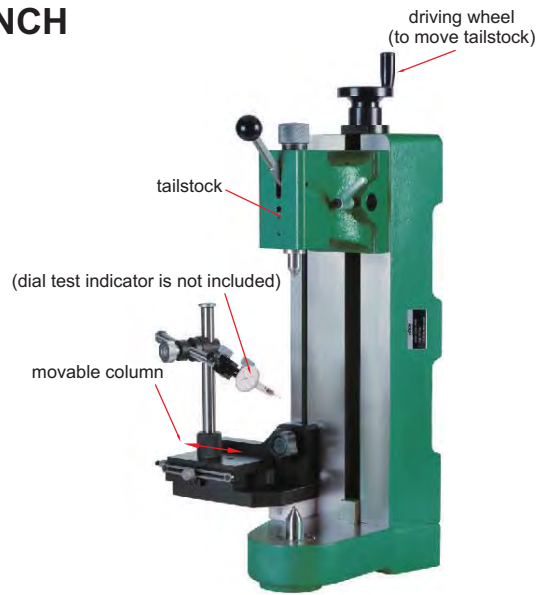
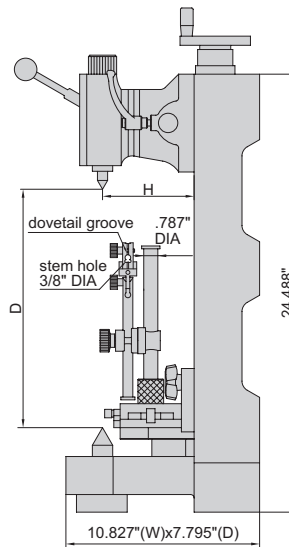
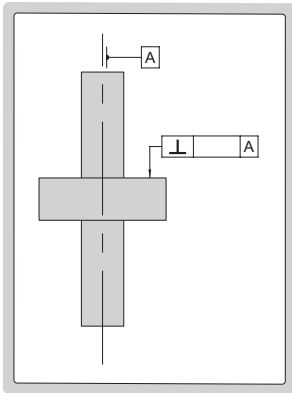
4721-75E



Part No.	Horizontal parallelism	Vertical parallelism	Center height (H)	Distance between two centers (D)	Taper of center	Weight	Load
4721-75E	.0001"	.0001"	1.575"	2.953"	MT1	8.14lb	8.8lb

VERTICAL AND HORIZONTAL CENTER BENCH

inspection of perpendicularity

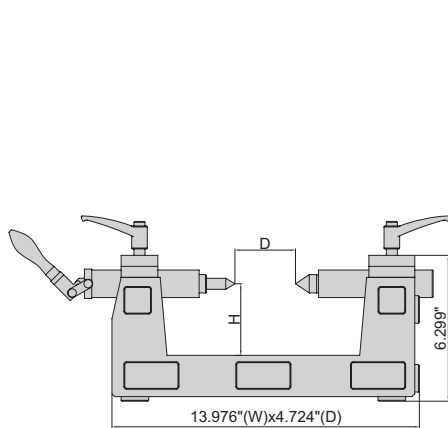


4783-380E

- For vertical and horizontal use
- Move tailstock via driving wheel
- To check perpendicularity after cablibrated

Part No.	Horizontal parallelism	Vertical parallelism	Center height (H)	Distance between two centers (D)	Taper of upper center	Taper of lower center	Weight	Load
4783-380E	.0004"	.0004"	5.118"	14.961"	MT2	MT3	176lb	132lb

VERTICAL AND HORIZONTAL CENTER BENCH

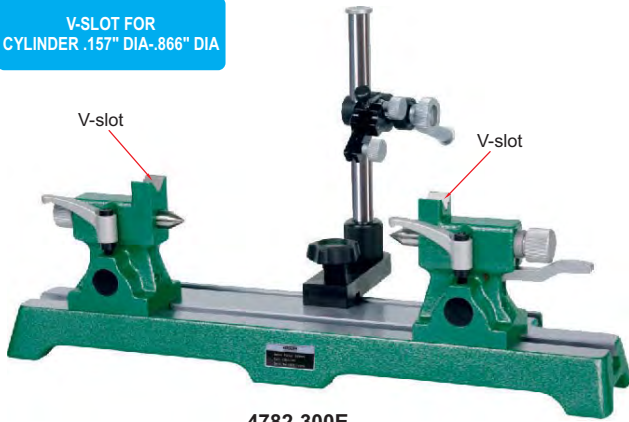


4722-200

- For vertical and horizontal use

Part No.	Horizontal parallelism	Vertical parallelism	Center height (H)	Distance between two centers (D)	Taper of center	Weight	Load
4722-200	.0002"	.0002"	3.150"	7.874"	MT1/MT3	48.4lb	55lb

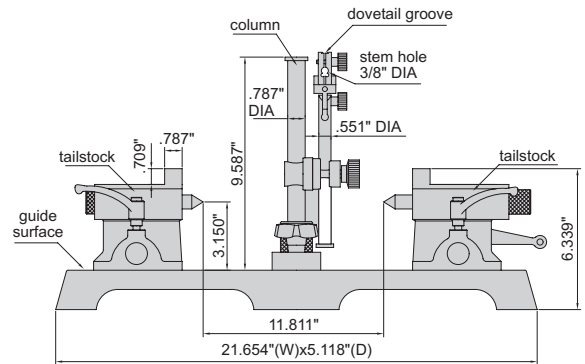
V-SLOT FOR
CYLINDER .157" DIA-.866" DIA



4782-300E

- Hardened cast-iron guide surface
- Movable column

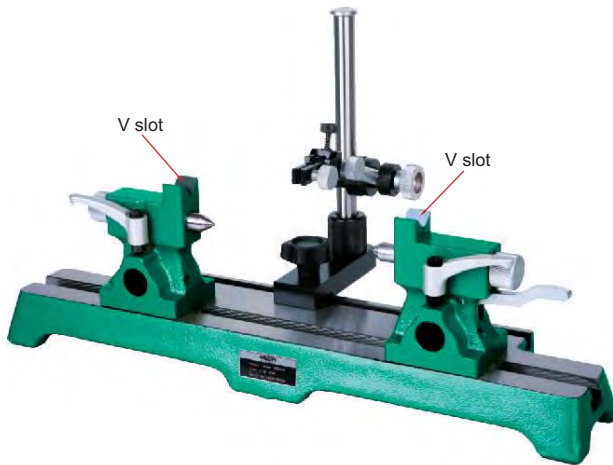
BENCH CENTER



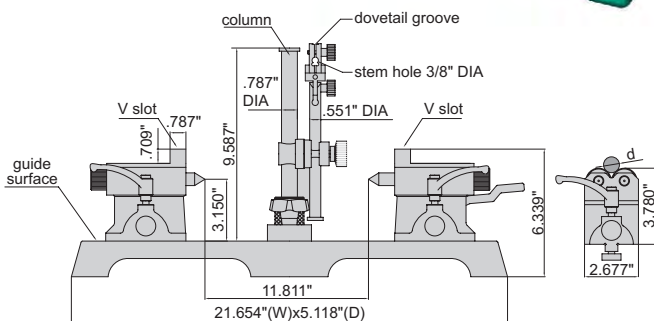
Part No.	Horizontal parallelism	Vertical parallelism	Center height	Distance between two centers	Taper of center	Load
4782-300E	.0004"	.0006"	3.150"	11.811"	MT1	55lb

BENCH CENTER

roller tailstock (included)



4720-300E



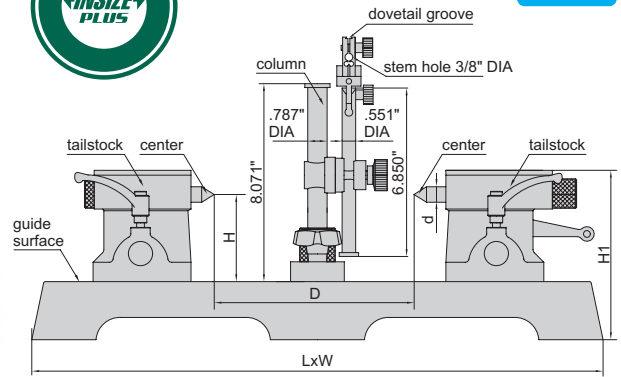
- Hardened cast-iron guide surface
- Supplied with V slot/center tailstock and roller tailstock
- V slot for cylinder .157" DIA ~ .866" DIA

Part No.	Horizontal parallelism	Vertical parallelism	Center height	Distance between two centers	Taper of center	Load
4720-300E	.0004"	.0006"	3.150"	11.811"	MT1	55/88lb

BENCH CENTER



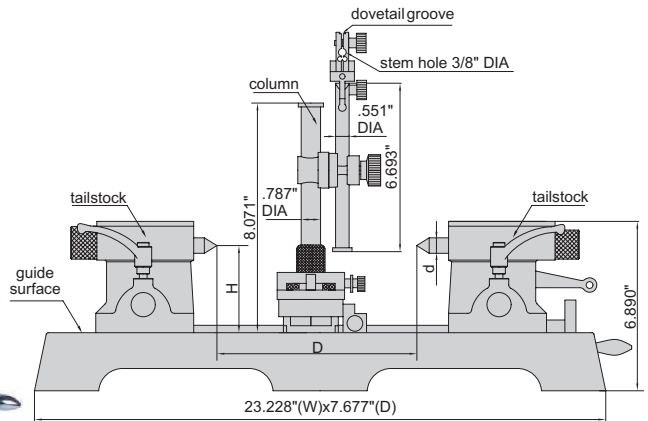
HIGH PRECISION



- Hardened cast-iron guide surface
- Movable column

Part No.	Horizontal parallelism	Vertical parallelism	Center height (H)	Distance between two centers (D)	Length (L)	Width (W)	Height (H1)	Diameter of center (d)	Taper of center	Weight	Load
4788-300E	.0004"	.0004"	3.543"	11.811"	23.228"	7.559"	6.890"	.480" DIA	MT2	74.8lb	55lb
4788-400E	.0004"	.0004"	5.118"	15.748"	30.315"	8.110"	9.488"	.709" DIA	MT3	145.2lb	132lb
4788-600E	.0004"	.0004"	5.118"	23.622"	36.614"	8.661"	9.843"	.709" DIA	MT3	198lb	132lb
4788-600H2E	.0004"	.0004"	7.874"	23.622"	36.614"	8.661"	12.795"	.949" DIA	MT3	231lb	132lb
4788-1000E	.0004"	.0004"	5.118"	39.370"	52.362"	8.661"	10.315"	.709" DIA	MT3	246.4lb	132lb
4788-1000H2E	.0004"	.0004"	7.874"	39.370"	52.362"	8.661"	13.268"	.949" DIA	MT3	275lb	187lb
4788-1000H3E	.0004"	.0004"	11.811"	39.370"	52.362"	8.661"	17.402"	1.244" DIA	MT3	363lb	187lb

BENCH CENTER WITH STRAIGHTNESS MEASUREMENT



- Hardened cast-iron guide surface
- Horizontal parallelism: .0002"
- Vertical parallelism: .0002"
- Accuracy of straightness measurement: .0004"

straightness measurement

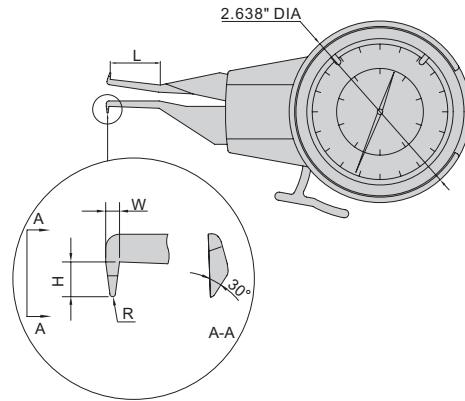


Part No.	Center height (H)	Distance between two centers (D)	Diameter of center (d)	Taper of center	Weight	Load
4723-300E	3.543"	11.811"	.484" DIA	MT1	83.6lb	55lb

INTERNAL DIAL CALIPER GAGE



2222-E06

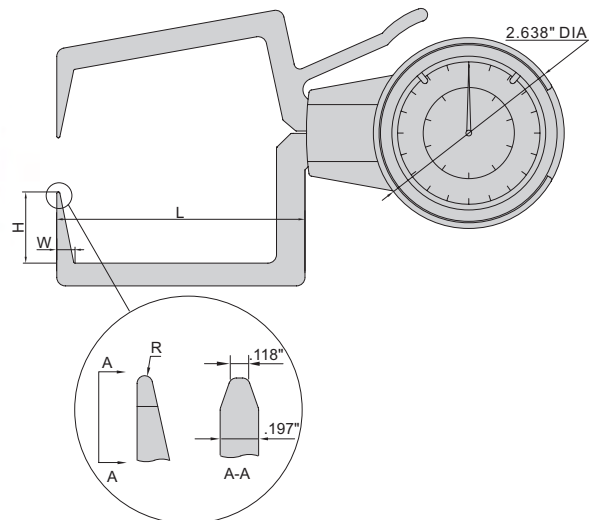


Part No.	Range	Graduation	Accuracy	L	H	W	R
2222-E06	.2-.6"	.0005"	±.0012"	.787"	.079"	.098"	.012"R
2222-E10	.2-1.0"	.0005"	±.0012"	1.378"	.059"	.039"	.012"R
2222-E121	.4-1.2"	.0005"	±.0012"	2.165"	.217"	.098"	.020"R
2222-E161	.8-1.6"	.0005"	±.0012"	3.150"	.236"	.118"	.020"R
2222-E201	1.2-2.0"	.0005"	±.0012"	3.150"	.315"	.118"	.020"R
2222-E24	1.6-2.4"	.0005"	±.0012"	3.150"	.315"	.118"	.020"R

EXTERNAL DIAL CALIPER GAGE



2333-E161



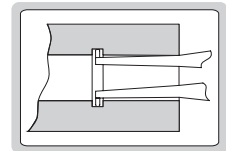
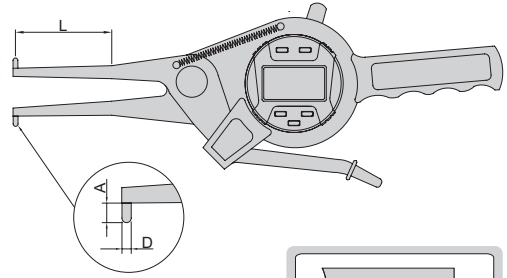
Part No.	Range	Graduation	Accuracy	L	H	W	R
2333-E081	0-.8"	.0005"	±.0012"	3.150"	.984"	.256"	.020"R
2333-E121	.4-1.2"	.0005"	±.0012"	3.150"	.984"	.256"	.020"R
2333-E161	.8-1.6"	.0005"	±.0012"	3.150"	.984"	.256"	.020"R
2333-E201	1.2-2.0"	.0005"	±.0012"	3.150"	.984"	.256"	.020"R
2333-E24	1.6-2.4"	.0005"	±.0012"	3.150"	.984"	.256"	.020"R

ELECTRONIC INTERNAL CALIPER GAGE

DATA
OUTPUT



2151-35



Part No.	Range	Resolution	Accuracy	L	A	D
2151-35	.6-1.4"/15-35mm	.0005"/0.01mm	±.0016"	1.969"	.118"	.118" DIA
2151-AL35	.6-1.4"/15-35mm	.0005"/0.01mm	±.0016"	7.874"	.118"	.118" DIA
2151-55	1.4-2.2"/35-55mm	.0005"/0.01mm	±.0016"	3.150"	.236"	.118" DIA
2151-AL55	1.4-2.2"/35-55mm	.0005"/0.01mm	±.0016"	9.843"	.315"	.118" DIA
2151-75	2.2-3"/55-75mm	.0005"/0.01mm	±.0016"	3.543"	.315"	.118" DIA
2151-AL75	2.2-3"/55-75mm	.0005"/0.01mm	±.0016"	9.843"	.315"	.118" DIA
2151-95	3-3.8"/75-95mm	.0005"/0.01mm	±.0016"	3.937"	.315"	.118" DIA
2151-115	3.8-4.6"/95-115mm	.0005"/0.01mm	±.0016"	4.724"	.394"	.126" DIA
2151-135	4.6-5.4"/115-135mm	.0005"/0.01mm	±.0016"	4.724"	.394"	.126" DIA

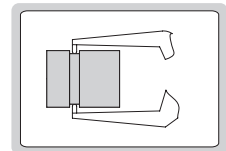
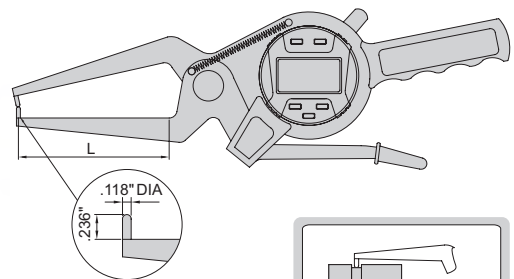
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)

ELECTRONIC EXTERNAL CALIPER GAGE

DATA
OUTPUT



2132-20



Part No.	Range	Resolution	Accuracy	L
2132-20	0-.8"/0-20mm	.0005"/0.01mm	±.0016"	2.362"
2132-40	.8-1.6"/20-40mm	.0005"/0.01mm	±.0016"	2.362"
2132-60	1.6-2.4"/40-60mm	.0005"/0.01mm	±.0016"	2.165"
2132-80	2.4-3.2"/60-80mm	.0005"/0.01mm	±.0016"	2.165"
2132-100	3.2-4"/80-100mm	.0005"/0.01mm	±.0016"	2.165"

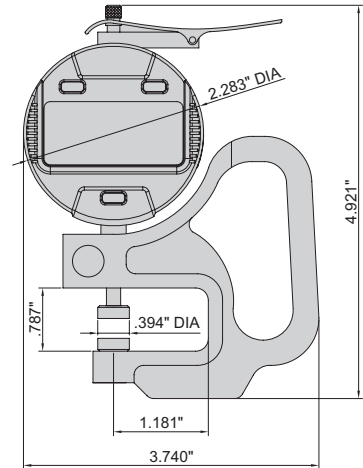
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)

DATA
OUTPUT

ELECTRONIC THICKNESS GAGE



2871-101



- Ceramic spindle tip and anvil
- Buttons: on/off, zero, inch/mm
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)

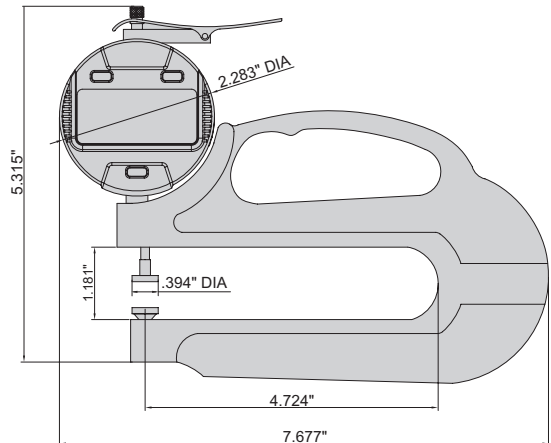
Part No.	Range	Resolution	Accuracy
2871-10	0-.4"/0-10mm	.0005"/0.01mm	±.0008"
2871-101	0-.4"/0-10mm	.00005"/0.001mm	±.0002"

DATA
OUTPUT

ELECTRONIC THICKNESS GAGE



2872-10



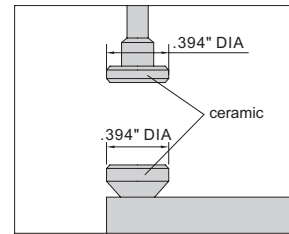
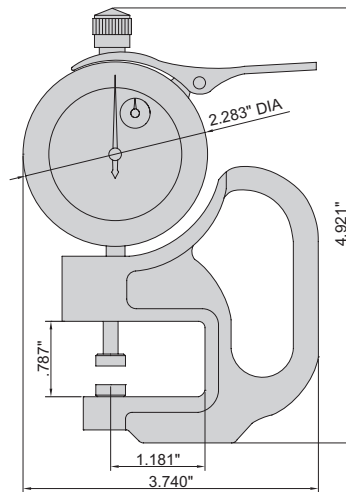
Part No.	Range	Resolution	Accuracy
2872-10	0-.4"/0-10mm	.0005"/0.01mm	±.0008"

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, inch/mm
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)

THICKNESS GAGE



2364-055

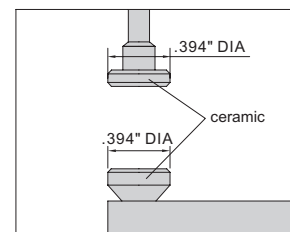
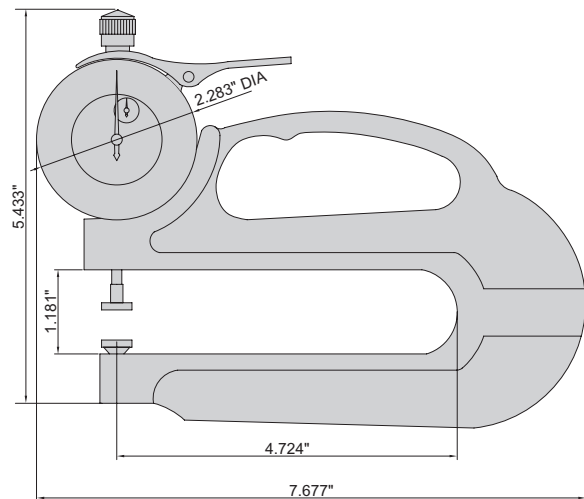


Part No.	Range	Graduation	Accuracy
2364-055	0-.5"	.0005"	±.0008"

THICKNESS GAGE



2365-055



Part No.	Range	Graduation	Accuracy
2365-055	0-.5"	.0005"	±.0008"

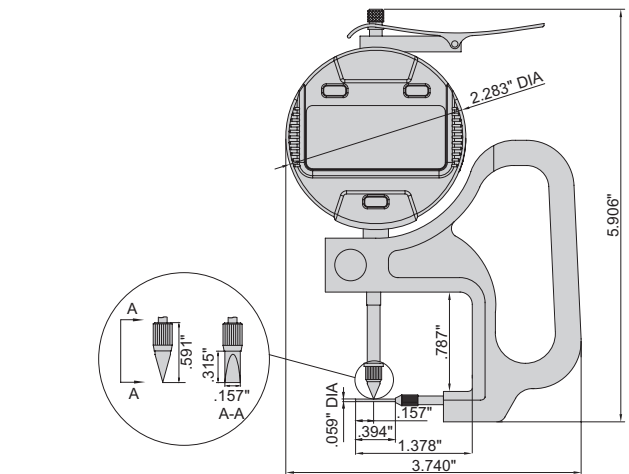
DATA
OUTPUT

ELECTRONIC TUBE THICKNESS GAGE

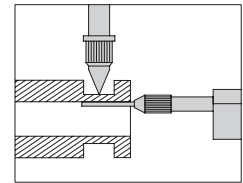


2873-10

- Buttons: on/off, zero, inch/mm
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output system (part no. 7306-40, 7302-SPC3A, 7305-SPC1A)



Measure wall thickness of groove



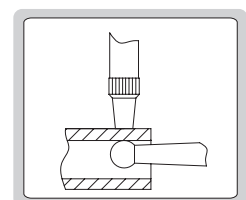
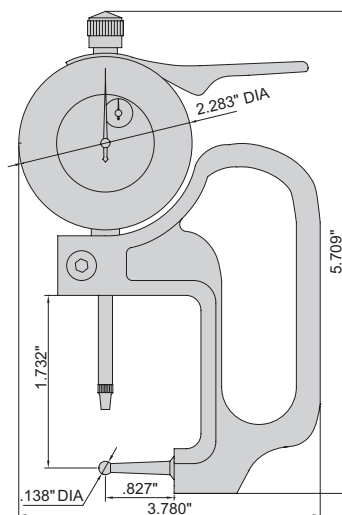
Part No.	Range	Resolution	Accuracy
2873-10	0-.4"/0-10mm	.0005"/0.01mm	±.0008"

TUBE THICKNESS GAGE



2367-055

- Measure tube wall thickness



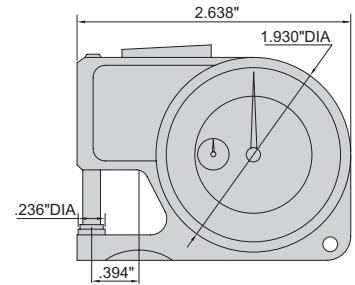
Part No.	Range	Graduation	Accuracy
2367-055	0-.5"	.0005"	±.0008"

THICKNESS GAGE



- Stainless steel spindle tip and anvil

2363-055



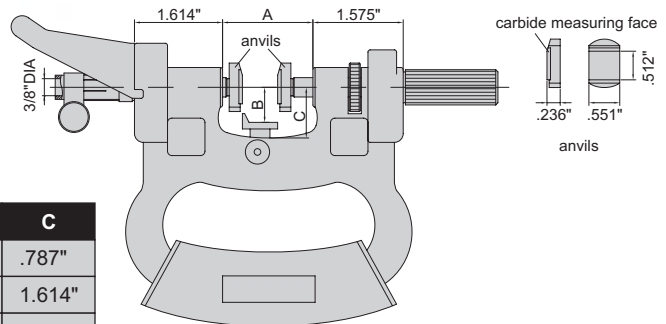
Part No.	Range	Graduation	Accuracy
2363-055	0-.5"	.0005"	±.0015"

DIAL SNAP GAGE



dial indicator is not included

2186-25E



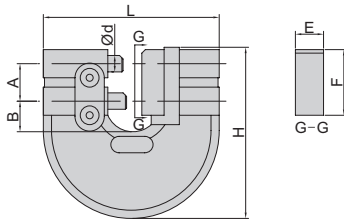
Part No.	Range	Parallelism	A	B	C
2186-25E	0-1"	157µin	1.654"	.433-.709"	.787"
2186-50E	1-2"	157µin	2.717"	.433-1.260"	1.614"
2186-75E	2-3"	197µin	3.701"	.669-1.614"	2.008"
2186-100E	3-4"	236µin	4.685"	1.220-2.165"	2.559"
2186-125E	4-5"	236µin	5.669"	1.654-2.756"	2.953"
2186-150E	5-6"	315µin	6.654"	2.165-3.228"	3.543"
2186-175E	6-7"	315µin	7.638"	2.677-3.740"	3.937"
2186-200E	7-8"	394µin	8.622"	3.346-4.331"	4.528"
2186-225E	8-9"	394µin	9.606"	3.740-4.724"	5.118"
2186-250E	9-10"	394µin	10.591"	4.331-5.315"	5.709"
2186-275E	10-11"	472µin	11.575"	4.724-5.906"	6.299"
2186-300E	11-12"	472µin	12.559"	5.039-6.299"	6.693"

- For quick Go/No-Go judgment of diameter of cylinders and shafts
- Left anvil retracting stroke: .079"
- Measuring force: 1.35-1.8lbf
- Flatness of anvil: 59µin
- Repeatability: 39µin
- Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and electronic indicators (reading .00005" or .0005")

ADJUSTABLE SNAP GAGE



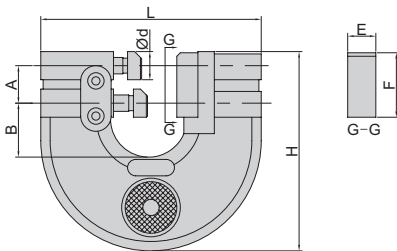
2187-6



0-.24"



2187-19



over .24"

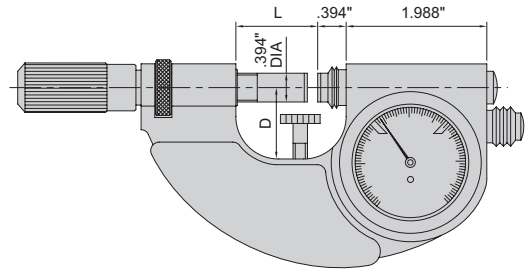
- Used as Go/No-Go gage by setting upper and lower limits
- Flatness of anvil: 59µin
- Parallelism between tips and anvil:
range 0-1.26": 118µin
range 1.26-3.50": 157µin
range 3.50-11.81": 197µin

Part No.	Range	L	A	B	E	F	H	d
2187-6	0-.24"	2.913"	.591"	.925"	.480"	1.071"	2.815"	.276" DIA
2187-13	.24-.51"	3.346"	.591"	1.024"	.480"	1.071"	3.130"	.484" DIA
2187-19	.51-.75"	3.661"	.591"	1.181"	.480"	1.071"	3.268"	.484" DIA
2187-25	.75-.98"	3.937"	.591"	1.319"	.480"	1.071"	3.524"	.484" DIA
2187-32	.98-1.26"	4.370"	.709"	1.516"	.598"	1.386"	4.094"	.602" DIA
2187-38	1.26-1.50"	4.606"	.709"	1.634"	.598"	1.386"	4.134"	.602" DIA
2187-44	1.50-1.73"	4.843"	.709"	1.752"	.598"	1.386"	4.291"	.602" DIA
2187-51	1.73-2.01"	5.118"	.709"	1.890"	.598"	1.386"	4.606"	.602" DIA
2187-57	2.01-2.24"	5.354"	.709"	2.008"	.598"	1.386"	4.685"	.602" DIA
2187-63	2.24-2.48"	5.630"	.709"	2.146"	.598"	1.386"	4.803"	.602" DIA
2187-70	2.48-2.76"	6.142"	.787"	2.283"	.598"	1.386"	5.197"	.602" DIA
2187-76	2.76-2.99"	6.417"	.787"	2.382"	.598"	1.386"	5.394"	.602" DIA
2187-82	2.99-3.23"	6.654"	.787"	2.539"	.598"	1.386"	5.512"	.602" DIA
2187-89	3.23-3.50"	6.890"	.787"	2.618"	.598"	1.386"	5.748"	.602" DIA
2187-95	3.50-3.74"	7.126"	.787"	2.736"	.598"	1.386"	5.866"	.602" DIA
2187-101	3.74-3.98"	7.402"	.787"	2.874"	.598"	1.386"	6.063"	.602" DIA
2187-108	3.98-4.25"	7.795"	.945"	3.110"	.598"	1.386"	6.535"	.602" DIA
2187-114	4.25-4.49"	8.031"	.945"	3.189"	.598"	1.543"	6.772"	.602" DIA
2187-120	4.49-4.72"	8.268"	.945"	3.386"	.598"	1.543"	7.047"	.602" DIA
2187-127	4.72-5.00"	8.543"	.945"	3.524"	.598"	1.543"	7.323"	.602" DIA
2187-133	5.00-5.24"	8.780"	.945"	3.642"	.598"	1.543"	7.559"	.602" DIA
2187-139	5.24-5.47"	9.016"	.945"	3.760"	.598"	1.543"	7.756"	.602" DIA
2187-146	5.47-5.75"	9.252"	.945"	3.878"	.598"	1.543"	7.913"	.602" DIA
2187-152	5.75-5.98"	9.528"	.945"	4.016"	.598"	1.543"	8.071"	.602" DIA
2187-163	5.98-6.42"	10.748"	.843"	4.201"	.717"	1.543"	8.307"	.720" DIA
2187-175	6.42-6.89"	10.748"	.843"	4.201"	.717"	1.543"	8.307"	.720" DIA
2187-188	6.89-7.40"	11.752"	.843"	4.713"	.717"	1.543"	8.937"	.720" DIA
2187-200	7.40-7.87"	11.752"	.843"	4.713"	.717"	1.543"	8.937"	.720" DIA
2187-213	7.87-8.39"	12.756"	.843"	5.185"	.717"	1.543"	9.528"	.720" DIA
2187-225	8.39-8.86"	12.756"	.843"	5.185"	.717"	1.543"	9.528"	.720" DIA
2187-238	8.86-9.37"	13.760"	.843"	5.697"	.717"	1.543"	9.843"	.720" DIA
2187-250	9.37-9.84"	13.760"	.843"	5.697"	.717"	1.543"	9.843"	.720" DIA
2187-263	9.84-10.35"	14.783"	.843"	6.209"	.717"	1.543"	10.945"	.720" DIA
2187-275	10.35-10.83"	14.783"	.843"	6.209"	.717"	1.543"	10.945"	.720" DIA
2187-288	10.83-11.34"	15.748"	.843"	6.720"	.717"	1.543"	11.457"	.720" DIA
2187-300	11.34-11.81"	15.748"	.843"	6.720"	.717"	1.543"	11.457"	.720" DIA

DIAL SNAP GAGE

ATTENTION:
BASIC MODEL

IP54
WATERPROOF



3334-1

Part No.	Range	L	D
3334-1	0-1"	1.122"	.984"
3334-2	1-2"	2.106"	1.378"
3334-3	2-3"	3.091"	1.870"
3334-4	3-4"	4.075"	2.362"

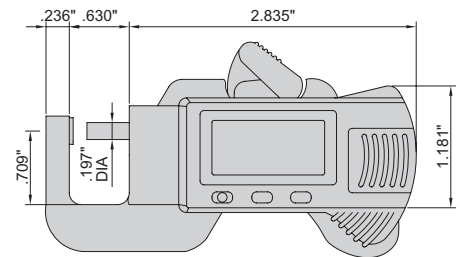
- Go/No-Go judgement for mass production
- Dial indicator: range ± 0.0015 ", graduation $.00005$ ", accuracy $.00004$ "
- IP54 dust/waterproof
- Measuring force: 1.125-2.25lbf
- Carbide measuring faces
- Supplied with setting standards (except 0-1")

ELECTRONIC SNAP GAGE

DATA
OUTPUT



2166-12



Part No.	Range	Resolution	Accuracy
2166-12	0-.5"/0-12mm	.0005"/0.01mm	± 0.0012 "

- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

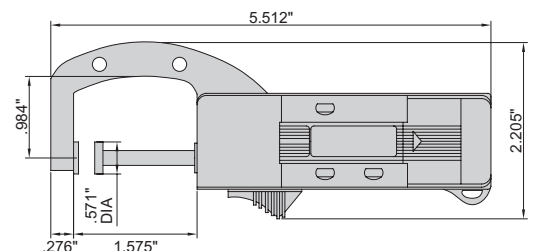
ELECTRONIC SNAP GAGE

ATTENTION:
NO DATA OUTPUT



2167-25

Part No.	Range	Resolution	Accuracy
2167-25	0-1"/0-25mm	.0005"/0.01mm	± 0.0012 "



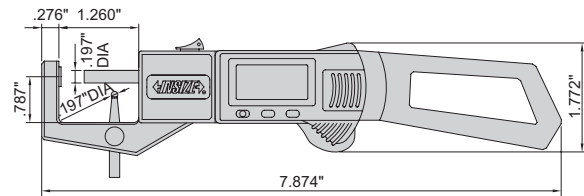
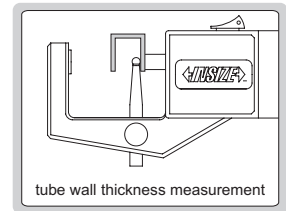
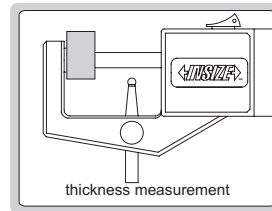
ELECTRONIC SNAP GAGE

DATA
OUTPUT



2163-25

- Resolution: .0005"/0.01mm
- Accuracy: $\pm 0.0016"$
- For thickness and tube wall thickness measurement
- Optional accessory: data output system
(part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



Part No.	Thickness range	Tube wall thickness range
2163-25	0-1"/0-25mm	.08"/0-2mm

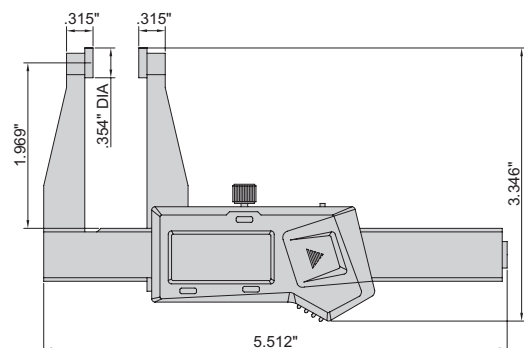
ELECTRONIC SNAP GAGE

DATA
OUTPUT



1163-50A

- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system
(part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



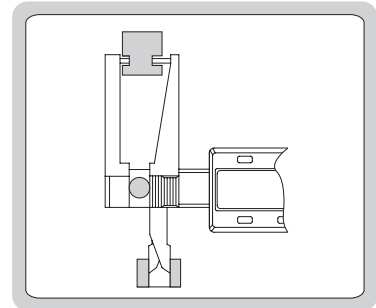
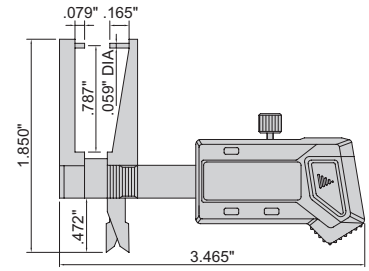
Part No.	Range	Resolution	Accuracy
1163-50A	0-2"/0-50mm	.0005"/0.01mm	$\pm 0.0012"$

ELECTRONIC 3-PURPOSE SNAP GAGE

ATTENTION:
NO DATA OUTPUT



2164-25A



- Buttons: zero, inch/mm, on/off
- Battery SR44 or LR44
- Made of stainless steel

Part No.	Range	Resolution	Accuracy
2164-25A	0-1"/0-25mm	.0005"/0.01mm	±.0012"

STEP AND GAP GAGE

DATA
OUTPUT

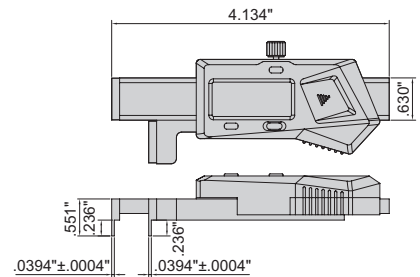


front



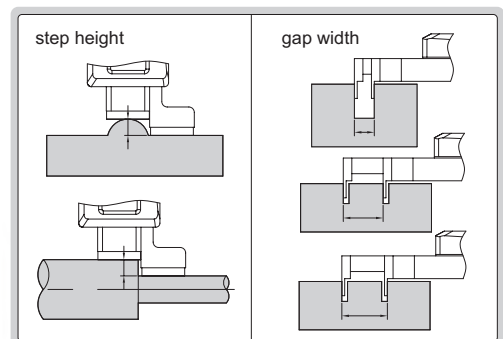
back

2168-12



- Measure step height and gap width
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with zero setting block
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

zero setting block



Part No.	Range	Accuracy
2168-12	0-.5"/0-12.7mm	±.0012"

STEEL GAGE BLOCK SET

- Made of alloy steel
- Meet ASME B89.1.9
- Supplied with manufacturer inspection certificate

Blocks per set	Blocks included in set			Part No.		
	Size (inch)	Step (inch)	Quantity	Grade 0	Grade AS-1	Grade AS-2
36	.05		1	4102-36	4102-136	4102-236
	.1001-.1009	.0001	9			
	.101-.109	.001	9			
	.11-.19	.01	9			
	.1-.5	.1	5			
	1		1			
	2		1			
4		1				
81	.1001-.1009	.0001	9	4102-81	4102-181	4102-281
	.101-.149	.001	49			
	.05-.95	.05	19			
	1-4	1	4			



4102-81

CERAMIC GAGE BLOCK SET

- Made of ceramic, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ASME B89.1.9
- Supplied with manufacturer inspection certificate

Blocks per set	Blocks included in set			Part No.		
	Size (inch)	Step (inch)	Quantity	Grade 0	Grade AS-1	Grade AS-2
36	.05		1	4005-36	4005-136	4005-236
	.1001-.1009	.0001	9			
	.101-.109	.001	9			
	.11-.19	.01	9			
	.1-.5	.1	5			
	1		1			
	2		1			
4		1				
81	.1001-.1009	.0001	9	4005-81	4005-181	4005-281
	.101-.149	.001	49			
	.05-.95	.05	19			
	1-4	1	4			



4005-281

INDIVIDUAL STEEL GAGE BLOCK

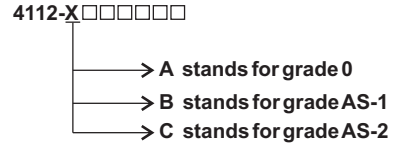


4112-A3

- Made of alloy steel
- Meet ASME B89.1.9
- Supplied with manufacturer inspection certificate

CUSTOM-MADE
 CAN SUPPLY ANY SIZES WITHIN .02" ~ 40", SUCH AS 3.876"
 SIZE<4": MOQ 6PCS PER SIZE
 SIZE>4": MOQ 3PCS PER SIZE

Part No. explanation:



Part No. examples:

Size	Grade	Part No.
.1"	0	4112-AD1
.95"	AS-1	4112-BD95
20"	AS-2	4112-C20

Size	Part No.
.1"	4112-XD1
.1001"	4112-XD1001
.1002"	4112-XD1002
.1003"	4112-XD1003
.1004"	4112-XD1004
.1005"	4112-XD1005
.1006"	4112-XD1006
.1007"	4112-XD1007
.1008"	4112-XD1008
.1009"	4112-XD1009
.101"	4112-XD101
.102"	4112-XD102
.103"	4112-XD103
.104"	4112-XD104
.105"	4112-XD105
.106"	4112-XD106
.107"	4112-XD107
.108"	4112-XD108
.109"	4112-XD109
.11"	4112-XD11
.111"	4112-XD111
.112"	4112-XD112
.113"	4112-XD113
.114"	4112-XD114
.115"	4112-XD115
.116"	4112-XD116
.117"	4112-XD117
.118"	4112-XD118
.119"	4112-XD119
.12"	4112-XD12

Size	Part No.
.121"	4112-XD121
.122"	4112-XD122
.123"	4112-XD123
.124"	4112-XD124
.125"	4112-XD125
.126"	4112-XD126
.127"	4112-XD127
.128"	4112-XD128
.129"	4112-XD129
.13"	4112-XD13
.131"	4112-XD131
.132"	4112-XD132
.133"	4112-XD133
.134"	4112-XD134
.135"	4112-XD135
.136"	4112-XD136
.137"	4112-XD137
.138"	4112-XD138
.139"	4112-XD139
.14"	4112-XD14
.141"	4112-XD141
.142"	4112-XD142
.143"	4112-XD143
.144"	4112-XD144
.145"	4112-XD145
.146"	4112-XD146
.147"	4112-XD147
.148"	4112-XD148
.149"	4112-XD149
.15"	4112-XD15

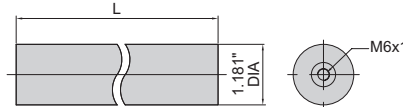
Size	Part No.
.2"	4112-XD2
.25"	4112-XD25
.3"	4112-XD3
.35"	4112-XD35
.4"	4112-XD4
.45"	4112-XD45
.5"	4112-XD5
.55"	4112-XD55
.6"	4112-XD6
.65"	4112-XD65
.7"	4112-XD7
.75"	4112-XD75
.8"	4112-XD8
.85"	4112-XD85
.9"	4112-XD9
.95"	4112-XD95
1"	4112-X1
2"	4112-X2
3"	4112-X3
4"	4112-X4
5"	4112-X5
6"	4112-X6
7"	4112-X7
8"	4112-X8
10"	4112-X10
12"	4112-X12
16"	4112-X16
20"	4112-X20

CYLINDER GAGE BLOCK

CUSTOM-MADE
CAN SUPPLY ANY SIZES, SUCH AS 3.1762"

Part No.	Length (L)
4001-1E*	1"
4001-2E*	2"
4001-3E*	3"
4001-4E*	4"
4001-8E*	8"
4001-12E*	12"
4001-16E*	16"
4001-20E*	20"

- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Meet ASME B89.1.9, grade AS-1
- Can be connected with M6x1 screw and combined to any sizes up to 150"



* Supplied with manufacturer inspection certificate

can be combined to any sizes up to 150"

Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 20"(standard) + 8"(standard) + 1.0175"(custom) = 29.0175"
Note: in order to reduce cost, custom size should be within 4"



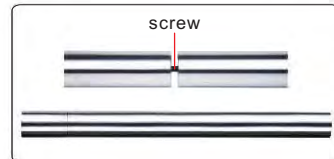
Combination 2: combined by standard size cylinder gage blocks and rectangular gage blocks
For example: 20"(cylinder) + 8"(cylinder) + .8"(rectangular) + .117"(rectangular) + .1005"(rectangular) = 29.0175"



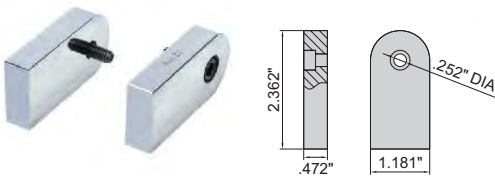
high stability in vertical position, suitable for checking height gages



connected with M6x1 screw



INTERNAL BLOCKS OF CYLINDER GAGE BLOCK

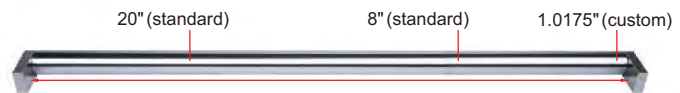


4001-A

- Can be attached to cylinder and rectangular gage blocks
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Supplied in a matched pair

Part No.	Size	Flatness
4001-A	.472"	8μm

Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 20"(standard) + 8"(standard) + 1.0175"(custom) = 29.0175"
Note: in order to reduce cost, custom size should be within 4"



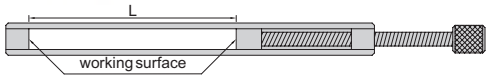
Combination 2: combined by standard size cylinder gage blocks and rectangular gage blocks
For example: 20"(cylinder) + 8"(cylinder) + 2"(rectangular) - .75"(rectangular) - .132"(rectangular) - .1005"(rectangular) = 29.0175"



GAGE BLOCK ACCESSORY



6881-A3



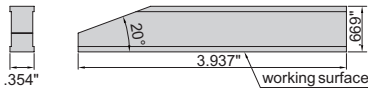
Part No.	Name	Clamping range*(L)
6881-A1	holder	0-1"
6881-A2	holder	1-2"
6881-A3	holder	2-4"
6881-A4	holder	4-8"
6881-A5	holder	8-12"
6881-A6**	holder	12-20"

* The actual clamping range should deduct the width of jaws

** Not suitable for base 6881-BE



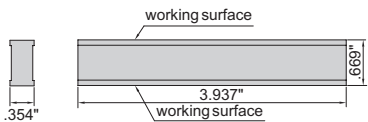
6881-C



Part No.	Name	Remark
6881-C	plain jaw	made of carbide, supplied in pair



6881-D

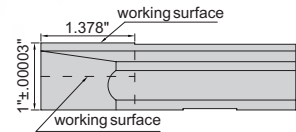


Part No.	Name	Remark
6881-D	parallel jaw	made of carbide

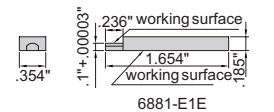


6881-BE

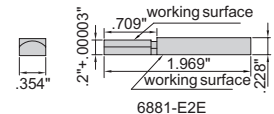
Part No.	Name
6881-BE	base



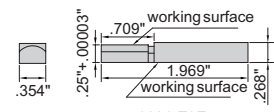
6881-E2E



6881-E1E



6881-E2E

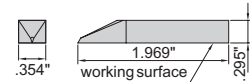


6881-E3E

Part No.	Name	Size	Remark
6881-E1E	half round jaw	.1"	made of carbide, supplied in pair
6881-E2E	half round jaw	.2"	made of carbide, supplied in pair
6881-E3E	half round jaw	.25"	made of carbide, supplied in pair



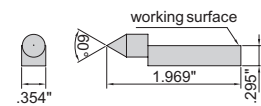
6881-F



Part No.	Name	Remark
6881-F	scriber	made of carbide



6881-G



Part No.	Name	Remark
6881-G	centre point	the tip is made of carbide

To be continued

Continued from previous page

GAGE BLOCK ACCESSORY SET

Part No.	Mark
6881-S17E	17pcs (including the below items)

holder, 0-1" (part no. 6881-A1)	1pc
holder, 1-2" (part no. 6881-A2)	1pc
holder, 2-4" (part no. 6881-A3)	1pc
holder, 4-8" (part no. 6881-A4)	1pc
holder, 8-12" (part no. 6881-A5)	1pc
base (part no. 6881-BE)	1pc
plain jaw (part no. 6881-C)	1 pair
parallel jaw (part no. 6881-D)	1pc
half round jaw, (part no. 6881-E1E)	1 pair
half round jaw, (part no. 6881-E2E)	1 pair
half round jaw, (part no. 6881-E3E)	1 pair
scriber (part no. 6881-F)	1pc
centre point (part no. 6881-G)	1pc

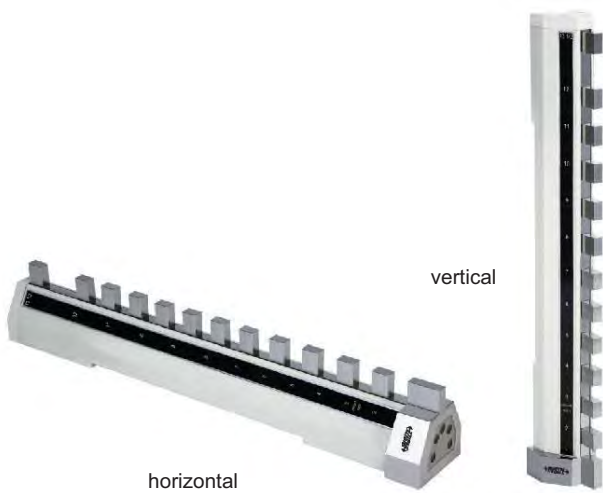


6881-S17E

application

<p>(plain jaw+holder) set zero</p>	<p>(base+holder+scriber) measure height or scribe</p>
<p>(half round jaw+holder) measure size A</p>	<p>(plain jaw+parallel jaw+holder) Go and No Go inspection</p>
<p>(half round jaw+holder) measure inside diameter</p>	<p>(scriber+centre point+holder) scribe circle</p>

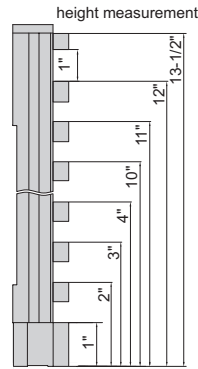
CALIPER/HEIGHT GAGE CHECKER



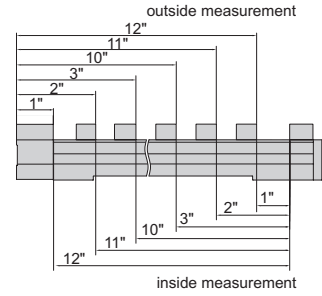
horizontal

vertical

6884-E12

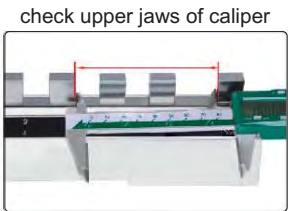


height measurement

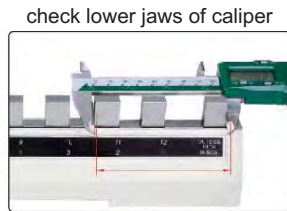


inside measurement

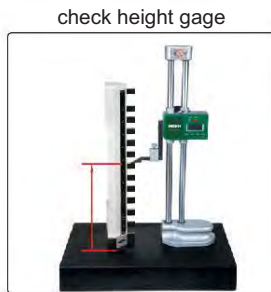
6884-E12



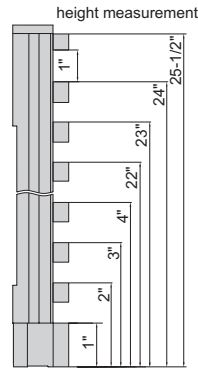
check upper jaws of caliper



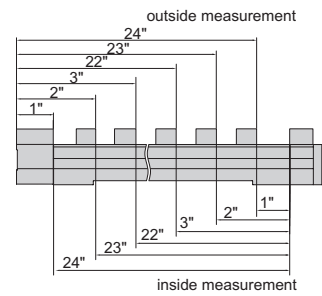
check lower jaws of caliper



check height gage

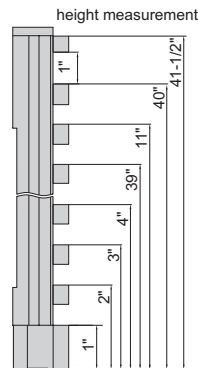


height measurement

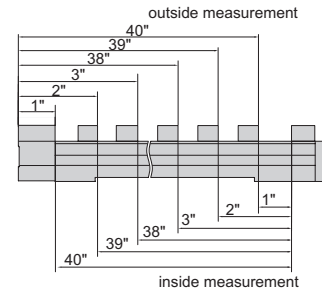


inside measurement

6884-E24



height measurement



inside measurement

6884-E40

- To check calipers and height gages
- Constructed with steel gage blocks

Part No.	Size	Range of inside measurement	Range of outside measurement	Range of height measurement	Accuracy
6884-E12*	0-12"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13-1/2"	±200µin
6884-E24*	0-24"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 21", 22", 23", 24"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 21", 22", 23", 24"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 21", 22", 23", 24", 25-1/2"	±300µin
6884-E40*	0-40"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 21", 22", 23", 24", 25", 26", 27", 28", 29", 30", 31", 32", 33", 34", 35", 36", 37", 38", 39", 40"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 21", 22", 23", 24", 25", 26", 27", 28", 29", 30", 31", 32", 33", 34", 35", 36", 37", 38", 39", 40"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 21", 22", 23", 24", 25", 26", 27", 28", 29", 30", 31", 32", 33", 34", 35", 36", 37", 38", 39", 40", 41-1/2"	±300µin

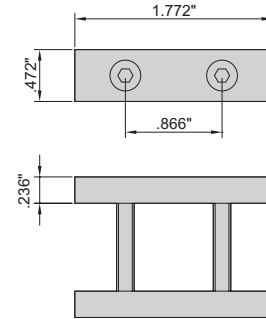
* Supplied with manufacturer inspection certificate

GAGE BLOCK HOLDER



6883-4

- Made of aluminum
- To be used with individual steel gage block (part no. 4112) as Go and No-Go gage



To be used as Go and No-Go gage



Part No.	Applicable gage block size
6883-1	.06-.2"
6883-2	.2-.4"
6883-3	.4-.6"
6883-4	.6-.8"
6883-5	.8-1"

ANGLE GAGE BLOCK SET

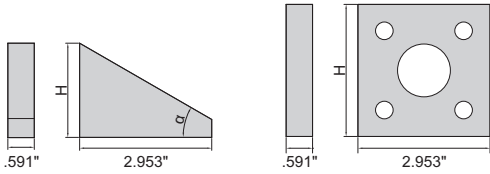
Part No.	Blocks per set	Angle	Step	Quantity
4109-7A	7	15°10'		1
		30°20'		1
		45°30'		1
		50°		1
		60°40'		1
		75°50'		1
		90°/90°/90°/90°		1
4109-36A	36	10° - 20°	1°	11
		30° - 70°	10°	5
		45°		1
		15°10' - 15°50'	10'	5
		15°1' - 15°9'	1'	9
		10°00'30"		1
		80°/81°/100°/99°		1
		89°10'/89°20'/90°50'/90°40'		1
		89°30'/89°40'/90°30'/90°20'		1
		90°/90°/90°/90°		1



4109-7A

- Standard for angle measurement
- Accuracy $\pm 10''$

ANGLE GAGE BLOCK



4002-15

- Accuracy: $\pm 2''$
- To inspect protractor, taper gage, index plate, index head and goniometer, can also be used to set angle
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Can be combined to any angle with interval 6 seconds after combination (6", 12", 18", ... , 360°)

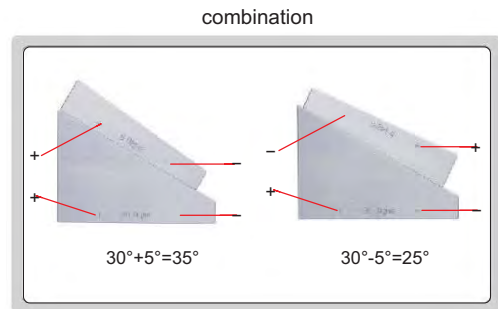
Individual

Part No.	Angle (α)	H
4002-A1 *	1°	.453"
4002-A3 *	3°	.551"
4002-A5 *	5°	.650"
4002-A9 *	9°	.866"
4002-A15 *	15°	1.201"
4002-A27 *	27°	1.890"
4002-A30 *	30°	2.106"
4002-A41 *	41°	2.953"
4002-A45 *	45°	3.307"
4002-B1 *	1'	.394"
4002-B3 *	3'	.394"
4002-B5 *	5'	.394"
4002-B9 *	9'	.394"
4002-B20 *	20'	.394"
4002-B27 *	27'	.394"
4002-B30 *	30'	.394"
4002-C6 *	6"	.394"
4002-C12 *	12"	.394"
4002-C18 *	18"	.394"
4002-C30 *	30"	.394"
4002-D *	90°/90°/90°/90°	2.953"

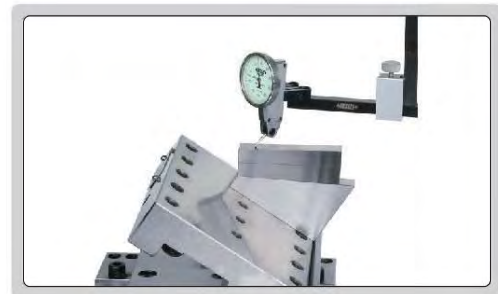
Set

Part No.	Angle (α)	Total Quantity
4002-13 *	1°, 3°, 9°, 27°, 41°, 1', 3', 9', 27', 6", 18", 30", 90°/90°/90°/90°	13
4002-15 *	1°, 3°, 5°, 15°, 30°, 45°, 1', 3', 5', 20', 30', 6", 12", 30", 90°/90°/90°/90°	15

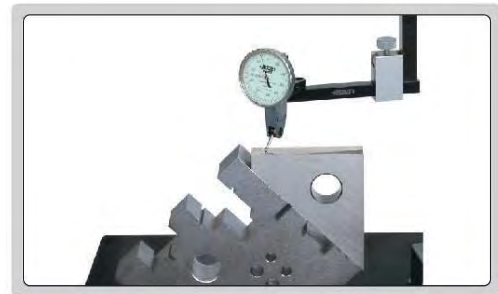
* Supplied with manufacturer inspection certificate



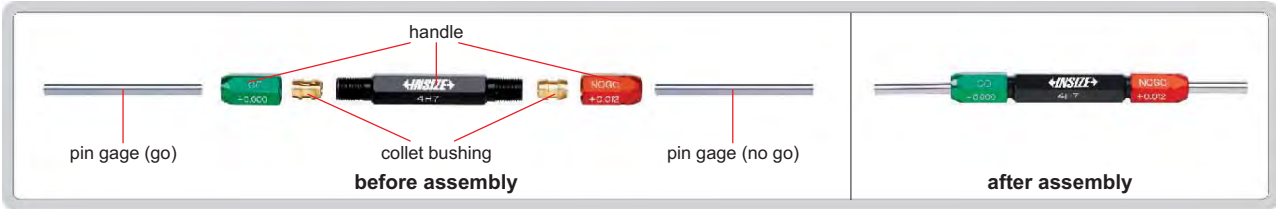
set angle of plate



inspect angle



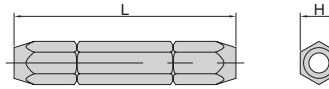
PIN GAGE HANDLE



HANDLE



7341-3H



Part No.	Applicable pin gage diameter	L	H
7341-1H	.030-.075"	2.244"	.276"
7341-2H	.075-.180"	2.480"	.354"
7341-3H	.180-.281"	3.110"	.551"
7341-4H	.281-.406"	3.583"	.748"

Part No.	Applicable pin gage diameter	L	H
7341-5H	.406-.510"	4.173"	.866"
7341-6H	.510-.635"	4.528"	.945"
7341-7H	.635-.760"	4.646"	1.063"
7341-8H	.760-1.010"	5.236"	1.260"

COLLET BUSHING



7341-2W12

■ Supplied in pair

Part No.	Applicable pin gage diameter	Applicable handle
7341-1W01	.030-.035"	7341-1H
7341-1W02	.035-.040"	
7341-1W03	.040-.045"	
7341-1W04	.045-.050"	
7341-1W05	.050-.055"	
7341-1W06	.055-.060"	
7341-1W07	.060-.065"	
7341-1W08	.065-.070"	
7341-1W09	.070-.075"	
7341-2W01	.075-.082"	7341-2H
7341-2W02	.082-.089"	
7341-2W03	.089-.096"	
7341-2W04	.096-.103"	
7341-2W05	.103-.110"	
7341-2W06	.110-.117"	
7341-2W07	.117-.124"	
7341-2W08	.124-.131"	
7341-2W09	.131-.138"	
7341-2W10	.138-.145"	
7341-2W11	.145-.152"	
7341-2W12	.152-.159"	
7341-2W13	.159-.166"	
7341-2W14	.166-.173"	
7341-2W15	.173-.180"	

Part No.	Applicable pin gage diameter	Applicable handle
7341-3W01	.180-.188"	7341-3H
7341-3W02	.188-.196"	
7341-3W03	.196-.204"	
7341-3W04	.204-.212"	
7341-3W05	.212-.220"	
7341-3W06	.220-.228"	
7341-3W07	.228-.236"	
7341-3W08	.236-.244"	
7341-3W09	.244-.252"	
7341-3W10	.252-.261"	
7341-3W11	.261-.271"	7341-4H
7341-3W12	.271-.281"	
7341-4W01	.281-.291"	
7341-4W02	.291-.301"	
7341-4W03	.301-.311"	
7341-4W04	.311-.321"	
7341-4W05	.321-.331"	
7341-4W06	.331-.341"	
7341-4W07	.341-.351"	
7341-4W08	.351-.361"	
7341-4W09	.361-.371"	
7341-4W10	.371-.382"	
7341-4W11	.382-.394"	
7341-4W12	.394-.406"	

Part No.	Applicable pin gage diameter	Applicable handle
7341-5W01	.406-.420"	7341-5H
7341-5W02	.420-.435"	
7341-5W03	.435-.450"	
7341-5W04	.450-.465"	
7341-5W05	.465-.480"	
7341-5W06	.480-.495"	
7341-5W07	.495-.510"	
7341-6W01	.510-.532"	7341-6H
7341-6W02	.532-.547"	
7341-6W03	.547-.563"	
7341-6W04	.563-.579"	
7341-6W05	.579-.594"	
7341-6W06	.594-.610"	
7341-6W07	.610-.625"	
7341-6W08	.625-.635"	
7341-7W01	.635-.656"	7341-7H
7341-7W02	.656-.672"	
7341-7W03	.672-.688"	
7341-7W04	.688-.704"	
7341-7W05	.704-.719"	
7341-7W06	.719-.735"	
7341-7W07	.735-.750"	
7341-7W08	.750-.760"	
7341-8W01	.760-.781"	7341-8H
7341-8W02	.781-.812"	

AMERICAN STANDARD THREAD PLUG GAGE

- Class 2B
- Standard ANSI B1.2



4131-1B1

Part No.	Size
4131-41*	4-40UNC
4131-61*	6-32UNC
4131-81*	8-32UNC
4131-102*	10-32UNF
4131-1B1*	1/4-20UNC

Part No.	Size
4131-1B2*	1/4-28UNF
4131-5D1*	5/16-18UNC
4131-5D2*	5/16-24UNF
4131-3C1*	3/8-16UNC
4131-3C2*	3/8-24UNF

Part No.	Size
4131-7D2*	7/16-20UNF
4131-1A1*	1/2-13UNC
4131-1A2*	1/2-20UNF
4131-9D2*	9/16-18UNF
4131-5C1*	5/8-11UNC

Part No.	Size
4131-5C2*	5/8-18UNF
4131-3B1*	3/4-10UNC
4131-3B2*	3/4-16UNF

* Supplied with manufacturer inspection certificate

AMERICAN STANDARD THREAD RING GAGE

- Class 2A
- Standard ANSI B1.2

ATTENTION: INSPECTED BY MASTER
PLUG GAGES INSTEAD OF LENGTH MACHINE

Part No. (GO)	Part No. (NOGO)	Size
4121-41*	4121-41N*	4-40UNC
4121-61*	4121-61N*	6-32UNC
4121-81*	4121-81N*	8-32UNC
4121-102*	4121-102N*	10-32UNF
4121-1B1*	4121-1B1N*	1/4-20UNC
4121-1B2*	4121-1B2N*	1/4-28UNF
4121-5D1*	4121-5D1N*	5/16-18UNC
4121-5D2*	4121-5D2N*	5/16-24UNF
4121-3C1*	4121-3C1N*	3/8-16UNC

Part No. (GO)	Part No. (NOGO)	Size
4121-3C2*	4121-3C2N*	3/8-24UNF
4121-7D2*	4121-7D2N*	7/16-20UNF
4121-1A1*	4121-1A1N*	1/2-13UNC
4121-1A2*	4121-1A2N*	1/2-20UNF
4121-9D2*	4121-9D2N*	9/16-18UNF
4121-5C1*	4121-5C1N*	5/8-11UNC
4121-5C2*	4121-5C2N*	5/8-18UNF
4121-3B1*	4121-3B1N*	3/4-10UNC
4121-3B2*	4121-3B2N*	3/4-16UNF



4121-1B1



4121-1B1N

* Supplied with manufacturer inspection certificate

NPT THREAD PLUG GAGE

- American tapered pipe thread for threads with sealant
- Standard ANSI / ASME B1.20.1
- Taper 1:16
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62



4644-1B18

Part No.	Size
4644-1D27*	1/16x27NPT
4644-1C27*	1/8x27NPT
4644-1B18*	1/4x18NPT
4644-3C18*	3/8x18NPT

Part No.	Size
4644-1A14*	1/2x14NPT
4644-3B14*	3/4x14NPT
4644-112*	1x11.5NPT
4644-1G12*	1-1/4x11.5NPT

Part No.	Size
4644-1H12*	1-1/2x11.5NPT
4644-212*	2x11.5NPT
4644-1J8*	2-1/2x8NPT
4644-38*	3x8NPT

Part No.	Size
4644-1N8*	3-1/2x8NPT
4644-48*	4x8NPT

* Supplied with manufacturer inspection certificate



front **4634-3C18**



back

NPT THREAD RING GAGE

- American tapered pipe thread for threads with sealant
- Standard ANSI / ASME B1.20.1
- Taper 1:16
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

Part No.	Size
4634-1D27*	1/16x27NPT
4634-1C27*	1/8x27NPT
4634-1B18*	1/4x18NPT
4634-3C18*	3/8x18NPT

Part No.	Size
4634-1A14*	1/2x14NPT
4634-3B14*	3/4x14NPT
4634-112*	1x11.5NPT
4634-1G12*	1-1/4x11.5NPT

Part No.	Size
4634-1H12*	1-1/2x11.5NPT
4634-212*	2x11.5NPT
4634-1J8*	2-1/2x8NPT
4634-38*	3x8NPT

Part No.	Size
4634-1N8*	3-1/2x8NPT
4634-48*	4x8NPT

* Supplied with manufacturer inspection certificate

- Supplied with Go and No-Go gages together
- Class 6H
- Standard ISO1502



4130-10

METRIC THREAD PLUG GAGE

Part No.	Size (mm)
4130-2*	M2x0.4
4130-2D2*	M2.2x0.45
4130-2D5*	M2.5x0.45
4130-3*	M3x0.5
4130-3D5*	M3.5x0.6
4130-4*	M4x0.7
4130-5*	M5x0.8

Part No.	Size (mm)
4130-6*	M6x1
4130-7*	M7x1
4130-8*	M8x1.25
4130-9*	M9x1.25
4130-10*	M10x1.5
4130-11*	M11x1.5
4130-12*	M12x1.75

Part No.	Size (mm)
4130-14*	M14x2
4130-16*	M16x2
4130-18*	M18x2.5
4130-20*	M20x2.5
4130-22*	M22x2.5
4130-24*	M24x3
4130-27*	M27x3

Part No.	Size (mm)
4130-30*	M30x3.5
4130-33*	M33x3.5
4130-36*	M36x4
4130-39*	M39x4
4130-42*	M42x4.5
4130-45*	M45x4.5
4130-48*	M48x5

Part No.	Size (mm)
4130-52*	M52x5
4130-56*	M56x5.5
4130-60*	M60x5.5

* Supplied with manufacturer inspection certificate

- Go and No-Go gages are supplied separately
- Class 6g
- Standard ISO1502

METRIC THREAD RING GAGE

Part No. Go	Part No. No Go	Size (mm)
4120-2*	4120-2N*	M2x0.4
4120-2D2*	4120-2D2N*	M2.2x0.45
4120-2D5*	4120-2D5N*	M2.5x0.45
4120-3*	4120-3N*	M3x0.5
4120-3D5*	4120-3D5N*	M3.5x0.6
4120-4*	4120-4N*	M4x0.7
4120-5*	4120-5N*	M5x0.8
4120-6*	4120-6N*	M6x1
4120-7*	4120-7N*	M7x1
4120-8*	4120-8N*	M8x1.25
4120-9*	4120-9N*	M9x1.25

Part No. Go	Part No. No Go	Size (mm)
4120-10*	4120-10N*	M10x1.5
4120-11*	4120-11N*	M11x1.5
4120-12*	4120-12N*	M12x1.75
4120-14*	4120-14N*	M14x2
4120-16*	4120-16N*	M16x2
4120-18*	4120-18N*	M18x2.5
4120-20*	4120-20N*	M20x2.5
4120-22*	4120-22N*	M22x2.5
4120-24*	4120-24N*	M24x3
4120-27*	4120-27N*	M27x3
4120-30*	4120-30N*	M30x3.5

Part No. Go	Part No. No Go	Size (mm)
4120-33*	4120-33N*	M33x3.5
4120-36*	4120-36N*	M36x4
4120-39*	4120-39N*	M39x4
4120-42*	4120-42N*	M42x4.5
4120-45*	4120-45N*	M45x4.5
4120-48*	4120-48N*	M48x5
4120-52*	4120-52N*	M52x5
4120-56*	4120-56N*	M56x5.5
4120-60*	4120-60N*	M60x5.5

* Supplied with manufacturer inspection certificate

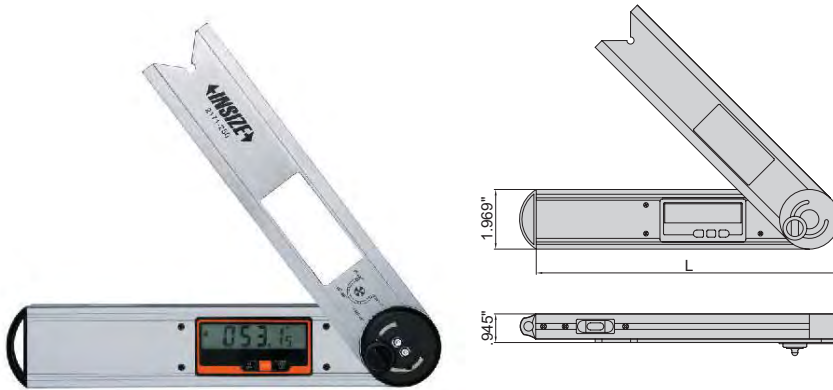


4120-16



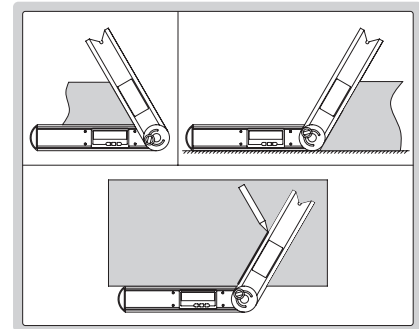
4120-16N

ELECTRONIC PROTRACTOR



2171-250

- Buttons: ON/OFF, HOLD (keep the reading), ZERO, ABS (absolute and incremental measurement)
- Fix the locking screw at 4 positions for different measuring ranges: 0°~225°, -225°~0°, -45°~180°, -180°~45°
- Remove the locking screw for 360° range
- With level vial
- Battery CR2032
- Automatic power off



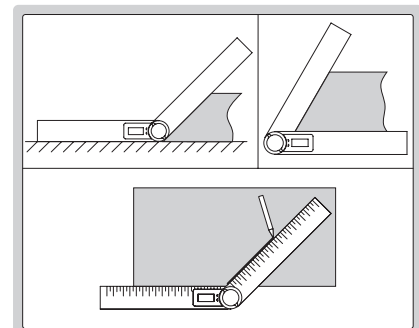
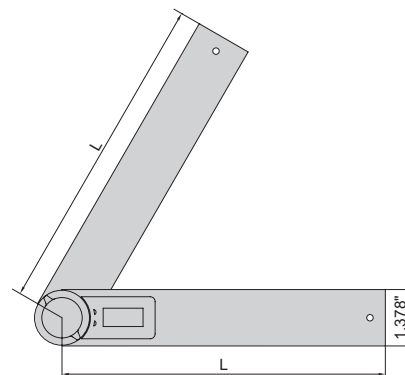
Part No.	Size (L)	Range	Resolution	Accuracy
2171-250	10"	0-360°	0.05°	±0.15°

ELECTRONIC PROTRACTOR



2176-300

- Buttons: ON/OFF, ZERO
- With clamping screw to lock the blades
- Graduation of blade: 1/32" and 1mm
- CR2032 battery
- Automatic power off



Part No.	Size (L)	Range	Resolution	Accuracy
2176-200	8"	0-360°	0.1°	±0.3°
2176-300	12"	0-360°	0.1°	±0.3°

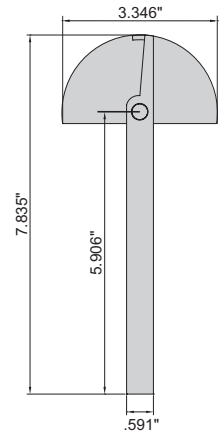
PROTRACTOR



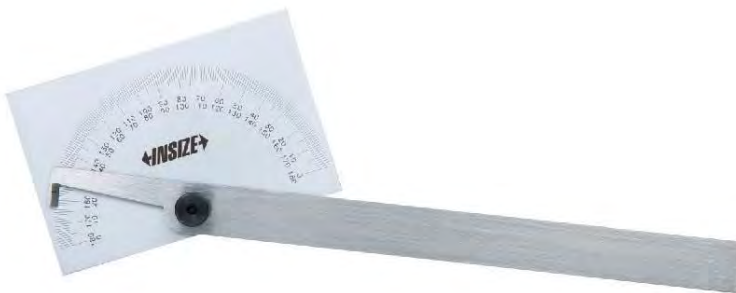
4780-85

- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

Part No.	Range	Graduation	Accuracy
4780-85	0 - 180°	1°	±0.3°



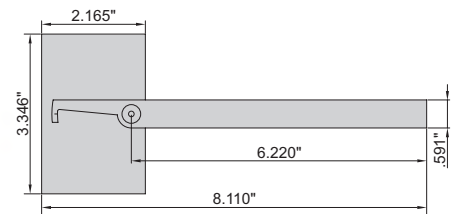
PROTRACTOR



4781-85

- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

Part No.	Range	Graduation	Accuracy
4781-85	0 - 180°	1°	±0.3°



4 working edges



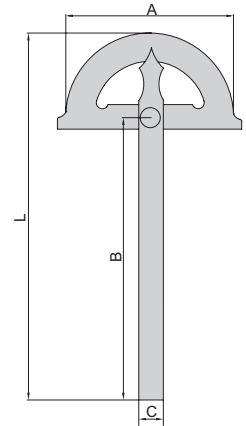
PROTRACTOR



4799-180

- Made of stainless steel (4799-1300 is made of carbon steel)
- Satin chrome plated scale
- With clamping screw

Part No.	Size (AxB)	Range	Graduation	Accuracy	L	C
4799-180	3.1x4.7"	0 - 180°	1°	±0.3°	6.614"	.433"
4799-1120	4.7x5.9"	0 - 180°	1°	±0.3°	8.661"	.551"
4799-1150	5.9x7.9"	0 - 180°	1°	±0.3°	11.220"	.630"
4799-1200	7.9x11.8"	0 - 180°	1°	±0.3°	16.260"	.787"
4799-1300	11.8x19.7"	0 - 180°	1°	±0.3°	26.575"	1.181"



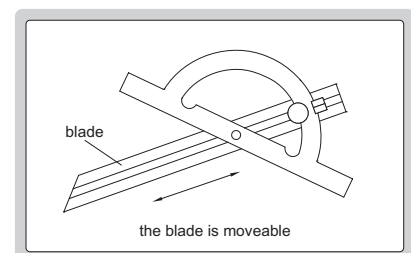
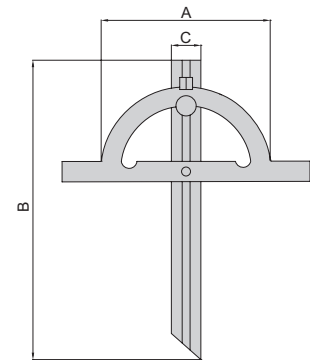
PROTRACTOR



4797-100

- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is moveable

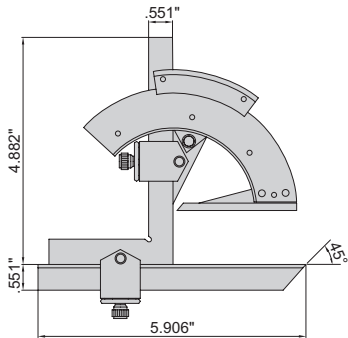
Part No.	Size (AxB)	Range	Graduation	Accuracy	C
4797-100	3.9x5.9"	10 - 170°	1°	±0.3°	.709"
4797-150	5.9x11.8"	10 - 170°	1°	±0.3°	.866"
4797-200	7.9x15.7"	10 - 170°	1°	±0.3°	.945"
4797-250	9.8x19.7"	10 - 170°	1°	±0.3°	1.102"
4797-300	11.8x23.6"	10 - 170°	1°	±0.3°	1.260"



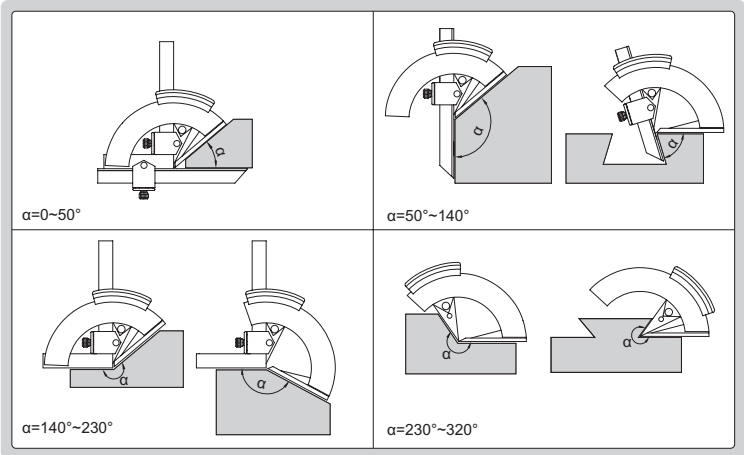
PROTRACTOR



2374-320



- Made of stainless steel
- Satin chrome plated scale



Part No.	Range	Graduation	Accuracy
2374-320	0 - 320°	2'	±2'

UNIVERSAL PROTRACTOR



6" blade (included)



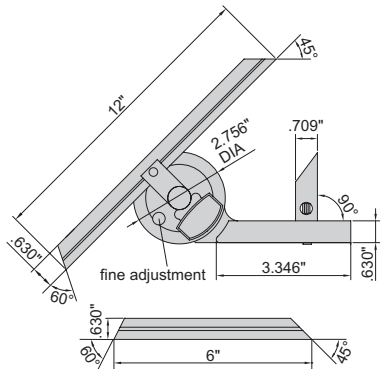
2372-360

clamp for height gages



2372-CLAMP

- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (part no. 2372-CLAMP), suitable for height gages 1156 and 1351

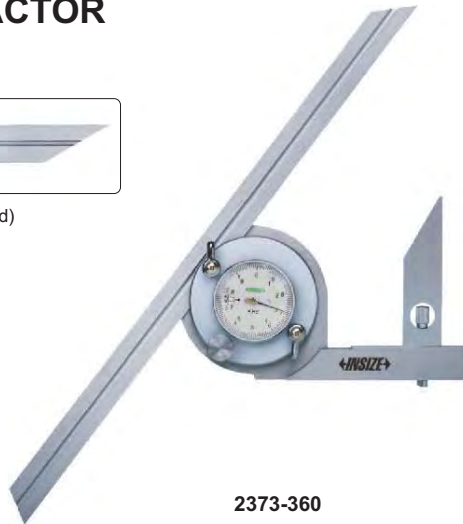


Part No.	Range	Graduation	Accuracy
2372-360	0 - 360°	5'	±5'

DIAL PROTRACTOR



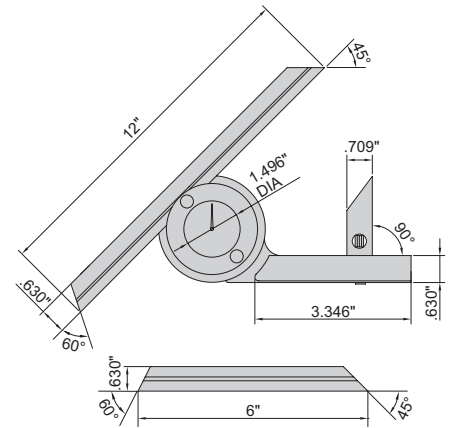
6" blade (included)



2373-360

- Made of stainless steel
- Optional accessory: clamp (part no. **2372-CLAMP**), suitable for height gages **1156** and **1351**

Part No.	Range	Graduation	Accuracy
2373-360	0-360°	5'	±5'



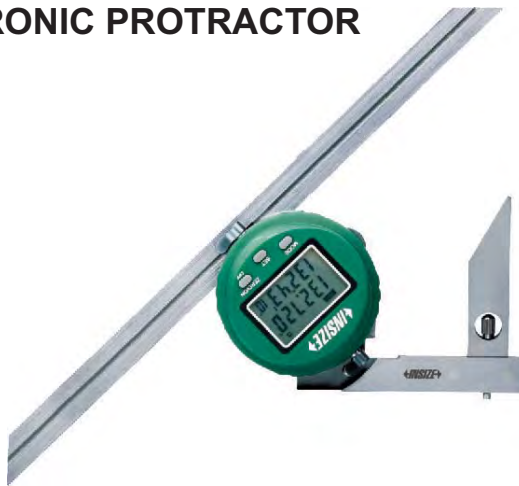
clamp for height gages



2372-CLAMP

ELECTRONIC PROTRACTOR

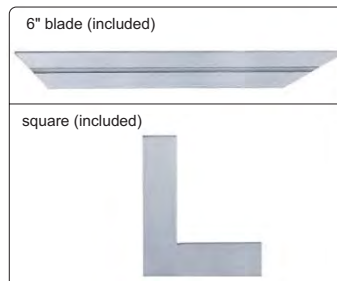
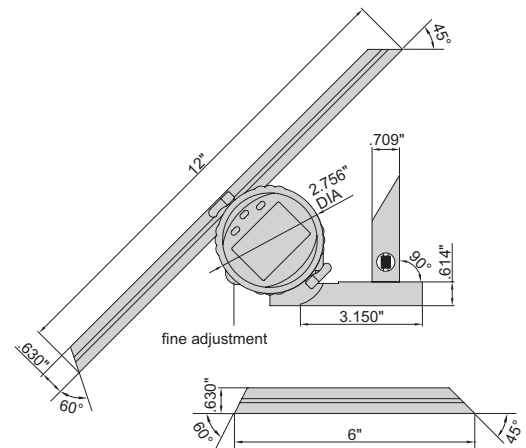
DATA
OUTPUT



2172-360A

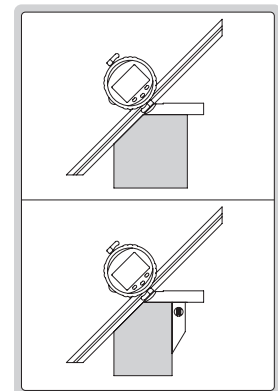
- Display in degree (for example 32.655°) and degree/minute/second (for example 32°39'30")
- SET button: preset the reading, change measuring direction
- MODE button: choose 0-90°, 0-180° or 0-360° display
- ZERO/ON/OFF button: zero and power on/off
- Battery CR2032, automatic power off
- Data output
- Supplied with square to set 90°
- Made of stainless steel
- Optional accessory: data output system (part no. **7305-SPC1A**)

Part No.	Range	Resolution	Accuracy
2172-360A	0-360°	10"/0.005°	±5'



6" blade (included)

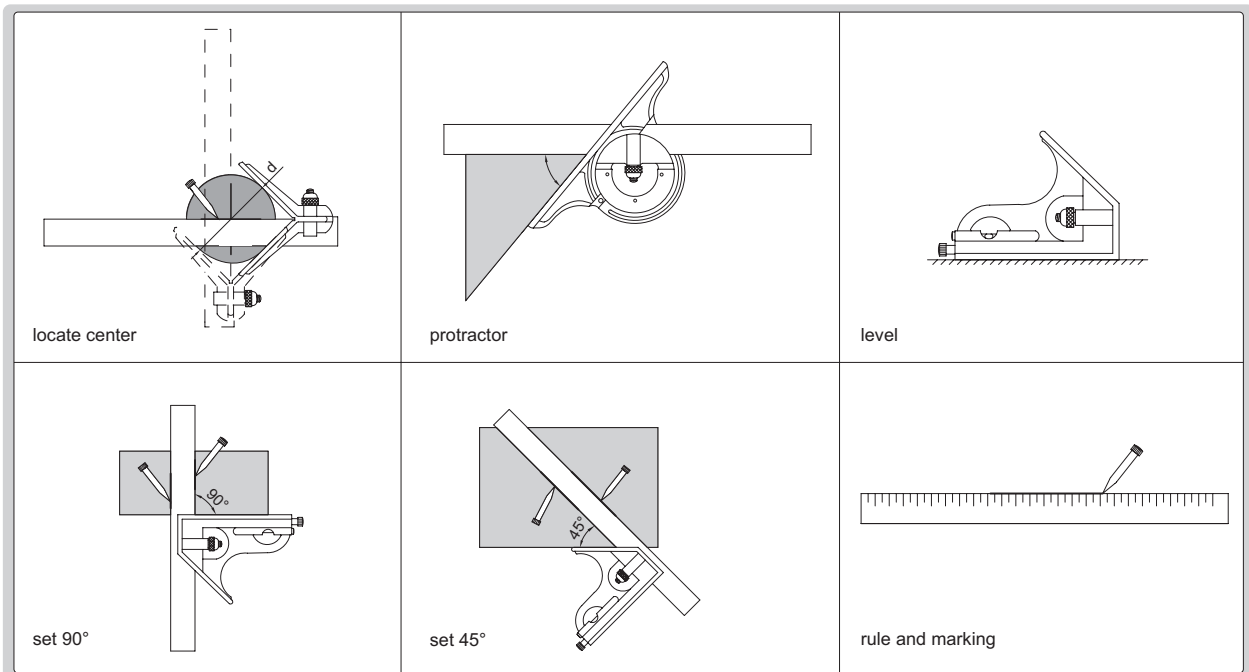
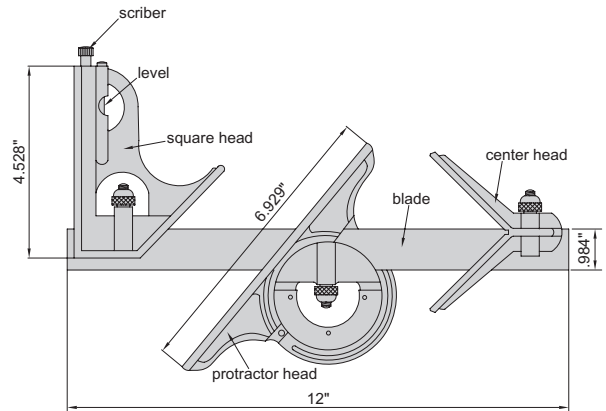
square (included)



COMBINATION SQUARE SET



2278-180



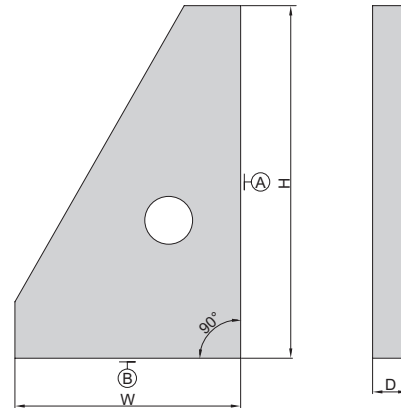
- Center head:
To locate center of cylinder with diameter (d): 1.181" DIA-3.937" DIA
Accuracy: $\pm 0.006"$
- Protractor head:
To set the blade at desired angle to an edge of a workpiece, and can be used to measure angles
Range: 0-180°
Accuracy: $\pm 7\text{min.}$
- Square head:
To set the blade at 90° or 45° to an edge of a workpiece
Accuracy: $\pm 8\text{min}$ for 90° square, $\pm 10\text{min}$ for 45° square
- Optional accessory: rigid rule (part no. 7113)

Part No.	Blade Range	Blade Graduation
2278-180	12"/300mm	1/32" and 0.5mm on front face, 1/64" and 1mm on back face
2278-180E	12"	1/8" and 1/16" on front face, 1/32" and 1/64" on back face

GRANITE SQUARE



4141-250

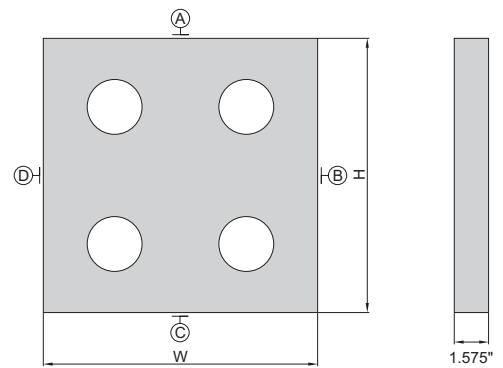


Part No.	Size (HxW)	Flatness of A	Flatness of B	Squareness of A to B	D
4141-250	9.8x6.3"	39 μ m	39 μ m	79 μ m	.984"
4141-400	15.7x9.8"	59 μ m	39 μ m	118 μ m	1.575"
4141-630	24.8x15.7"	79 μ m	59 μ m	157 μ m	2.480"

GRANITE SQUARE

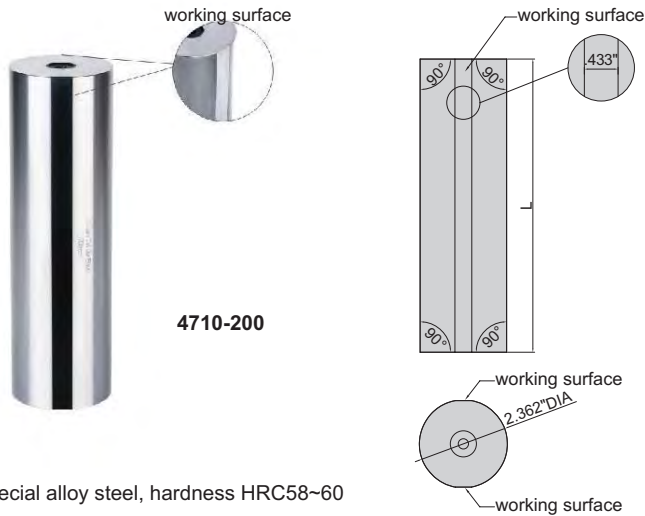


4144-315



Part No.	Size (HxW)	Flatness of A, B, C and D	Squareness and parallelism between A, B, C and D
4144-315	12.4x12.4"	43 μ m	102 μ m

CYLINDER SQUARE



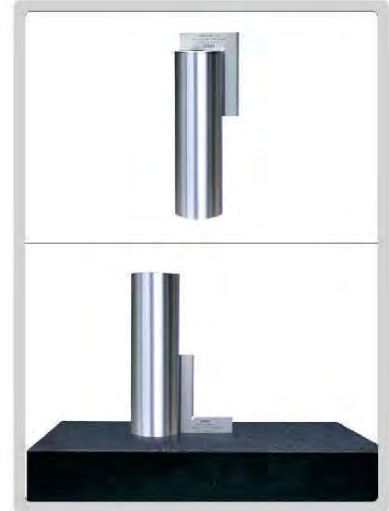
4710-200

- Made of special alloy steel, hardness HRC58~60

Part No.	Length (L)	Squareness
4710-200*	8"	39 μ in
4710-300*	12"	59 μ in

* Supplied with manufacturer inspection certificate

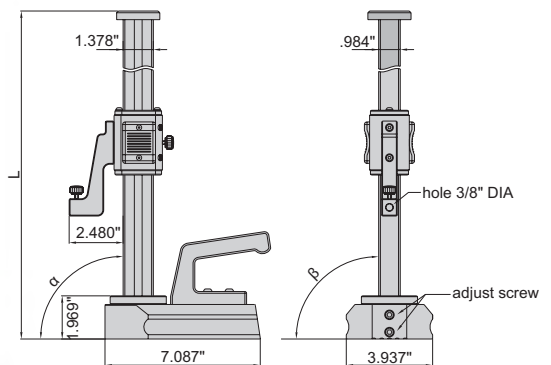
inspect 90° internal and external angles



PERPENDICULARITY TESTER



4770-300E



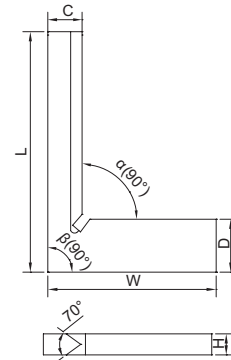
Part No.	Range (H)	Perpendicularity (α)	Side perpendicularity (β)	L
4770-300E	0-12"	118 μ in	394 μ in	18.110"
4770-600E	0-24"	197 μ in	787 μ in	29.921"

- Optional accessory: dial test indicators, cylinder square (part no. 4710, for calibration), granite square (part no. 4141, for calibration)

90° TOOL MAKER SQUARE



4794-040



Part No.	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4794-025	1.0x.8"	87 μ in	91 μ in	.157"	.256"	.138"
4794-040	1.6x1.1"	91 μ in	94 μ in	.217"	.335"	.138"

- DIN875 grade 00
- Beveled edge for inside measurement
- Made of hardened stainless steel

90° BEVELED EDGE SQUARE

- Satin chrome plating
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

DIN875 grade 00

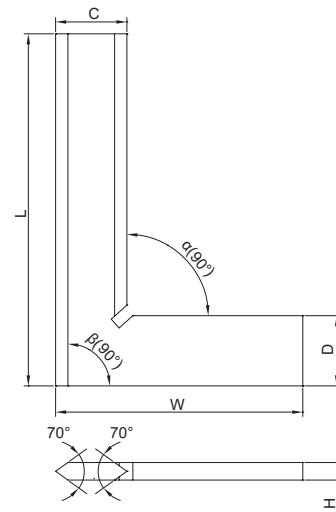
Part No.	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4790-050	2.0x1.6"	94 μ in	98 μ in	.512"	.512"	.157"
4790-075	3.0x2.0"	102 μ in	110 μ in	.591"	.591"	.157"
4790-0100	3.9x2.8"	110 μ in	118 μ in	.787"	.787"	.197"
4790-0150	5.9x3.9"	126 μ in	138 μ in	1.181"	1.181"	.236"
4790-0200	7.9x5.1"	146 μ in	157 μ in	1.339"	1.339"	.276"
4790-0250	9.8x6.5"	165 μ in	177 μ in	1.378"	1.378"	.276"
4790-0300	11.8x7.9"	181 μ in	197 μ in	1.575"	1.575"	.315"

DIN875 grade 0

Part No.	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4790-500	2.0x1.6"	236 μ in	236 μ in	.512"	.512"	.157"
4790-750	3.0x2.0"	236 μ in	276 μ in	.591"	.591"	.157"
4790-1000	3.9x2.8"	276 μ in	276 μ in	.787"	.787"	.197"
4790-1500	5.9x3.9"	276 μ in	315 μ in	1.181"	1.181"	.236"
4790-2000	7.9x5.1"	315 μ in	354 μ in	1.339"	1.339"	.276"
4790-2500	9.8x6.5"	354 μ in	394 μ in	1.378"	1.378"	.276"
4790-3000	11.8x7.9"	394 μ in	433 μ in	1.575"	1.575"	.315"



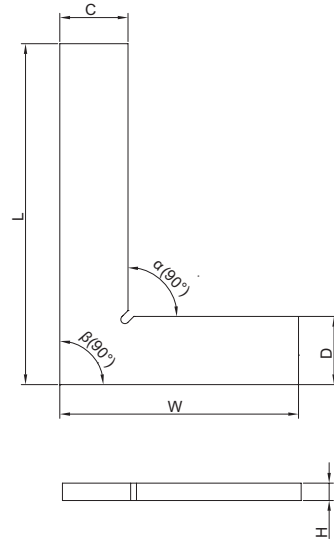
4790-0100





4791-100

90° FLAT EDGE SQUARE



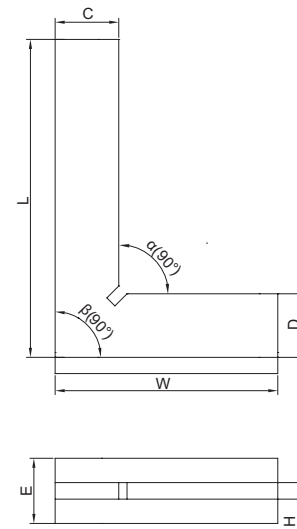
Part No.	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4791-50	2.0x1.6"	236μin	236μin	.512"	.512"	.157"
4791-75	3.0x2.0"	236μin	276μin	.591"	.591"	.157"
4791-100	3.9x2.8"	276μin	276μin	.787"	.787"	.197"
4791-150	5.9x3.9"	276μin	315μin	1.181"	1.181"	.236"
4791-200	7.9x5.1"	315μin	354μin	1.181"	1.181"	.276"
4791-250	9.8x6.5"	354μin	394μin	1.378"	1.378"	.276"
4791-300	11.8x7.9"	394μin	433μin	1.575"	1.575"	.315"

- DIN875 grade 0
- Made of hardened stainless steel



4793-100

90° FLAT EDGE SQUARE WITH WIDE BASE



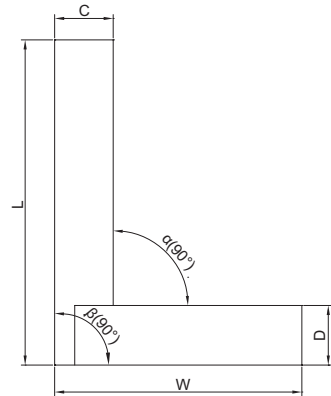
Part No.	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4793-50	2.0x1.6"	236μin	236μin	.512"	.512"	.157"	.512"
4793-75	3.0x2.0"	236μin	276μin	.591"	.591"	.157"	.591"
4793-100	3.9x2.8"	276μin	276μin	.787"	.787"	.197"	.787"
4793-150	5.9x3.9"	276μin	315μin	1.181"	1.181"	.236"	1.181"
4793-200	7.9x5.1"	315μin	354μin	1.181"	1.181"	.276"	1.181"
4793-250	9.8x6.5"	354μin	394μin	1.378"	1.378"	.276"	1.378"
4793-300	11.8x7.9"	394μin	433μin	1.575"	1.575"	.315"	1.575"

- DIN875 grade 0
- Made of hardened stainless steel

90° FLAT EDGE SQUARE WITH WIDE BASE



4792-100



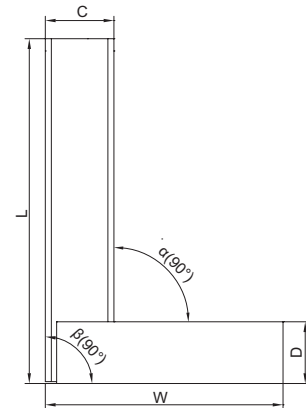
- DIN875 grade 0
- Made of hardened stainless steel

Part No.	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4792-50	2.0x1.6"	236 μ m	236 μ m	.472"	.472"	.118"	.394"
4792-75	3.0x2.0"	236 μ m	276 μ m	.551"	.551"	.118"	.394"
4792-100	3.9x2.8"	276 μ m	276 μ m	.709"	.709"	.118"	.394"
4792-150	5.9x3.9"	315 μ m	315 μ m	.866"	.866"	.157"	.472"
4792-200	7.9x5.1"	354 μ m	354 μ m	.984"	.984"	.157"	.472"

90° BEVELED EDGE SQUARE WITH WIDE BASE



4795-100



- DIN875 grade 0
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

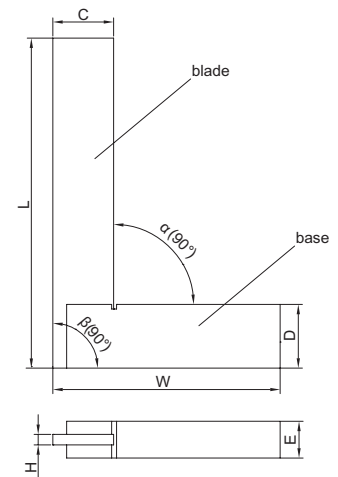
Part No.	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4795-50	2.0x1.6"	236 μ m	236 μ m	.472"	.472"	.118"	.394"
4795-75	3.0x2.0"	236 μ m	276 μ m	.551"	.551"	.118"	.394"
4795-100	3.9x2.8"	276 μ m	276 μ m	.709"	.709"	.118"	.394"
4795-150	5.9x3.9"	315 μ m	315 μ m	.866"	.866"	.157"	.472"
4795-200	7.9x5.1"	354 μ m	354 μ m	.984"	.984"	.157"	.472"

**ATTENTION:
LOW ACCURACY**

MACHINIST SQUARE WITH WIDE BASE

- Economic model
- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend

Part No.	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4707-50	2.0x1.6"	.95mil	.98mil	.630"	.472"	.118"	.354"
4707-75	3.0x2.0"	1.02mil	1.10mil	.630"	.630"	.118"	.354"
4707-100	3.9x2.8"	1.10mil	1.18mil	.748"	.748"	.118"	.472"
4707-150	6x4"	1.30mil	1.38mil	.984"	.984"	.118"	.630"
4707-200	8x5"	1.46mil	1.58mil	1.181"	1.260"	.157"	.630"
4707-250	10x6"	1.65mil	1.77mil	1.181"	1.260"	.157"	.748"
4707-300	12x8"	1.85mil	1.97mil	1.260"	1.260"	.157"	.748"
4707-400	16x10"	2.21mil	2.36mil	1.496"	1.496"	.197"	.866"
4707-500	20x12"	2.56mil	2.76mil	1.772"	1.969"	.236"	.984"
4707-600	24x14"	2.95mil	3.15mil	1.969"	1.969"	.236"	1.181"
4707-750	30x16"	3.54mil	3.74mil	2.165"	2.165"	.236"	1.969"
4707-900	35x20"	4.06mil	4.33mil	2.559"	2.953"	.354"	1.969"
4707-1000	39x22"	4.45mil	4.72mil	2.559"	2.953"	.354"	1.969"

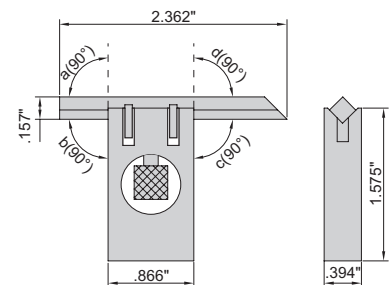


ADJUSTABLE SQUARE

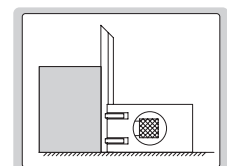
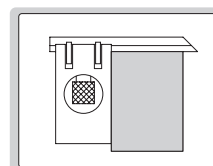
- The straight edge can move and can be locked by the clamping screw
- Made of hardened stainless steel



4701-1



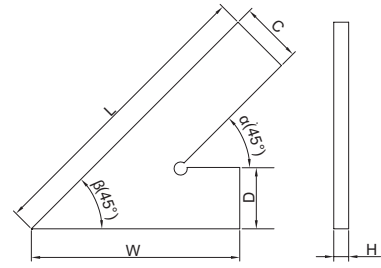
Part No.	Squareness (a, b, c, d)
4701-1	276 μ m



45° SQUARE



4745-1100



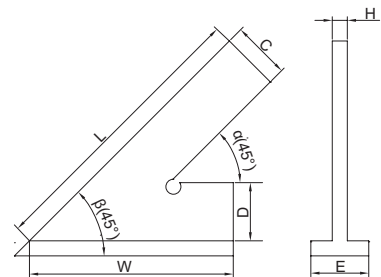
Part No.	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4745-1100	3.9x2.8"	1.06mil	1.18mil	.787"	.787"	.197"
4745-1120	4.7x3.1"	1.14mil	1.26mil	.787"	.787"	.197"
4745-1150	5.9x3.9"	1.26mil	1.38mil	.787"	.787"	.197"
4745-1200	7.9x5.1"	1.42mil	1.58mil	.984"	.984"	.197"

- Made of hardened stainless steel

45° SQUARE WITH WIDE BASE



4747-100



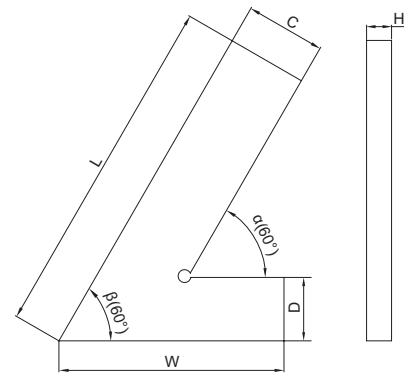
Part No.	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4747-100	3.9x2.8"	1.06mil	1.22mil	.787"	.787"	.197"	.787"
4747-120	4.7x3.1"	1.14mil	1.30mil	.787"	.787"	.197"	.787"
4747-150	5.9x3.9"	1.26mil	1.42mil	.787"	.787"	.197"	.787"
4747-200	7.9x5.1"	1.42mil	1.61mil	.984"	.984"	.197"	.984"

- Made of hardened stainless steel



4760-1100

60° SQUARE



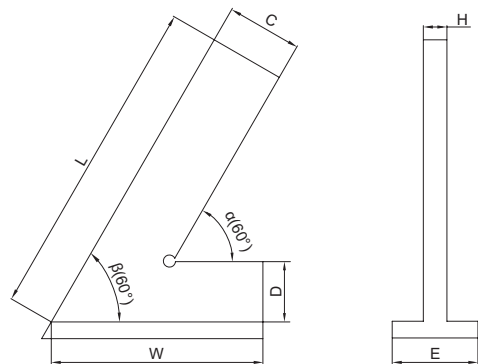
Part No.	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4760-1100	3.9x2.8"	1.10mil	1.18mil	.787"	.787"	.197"
4760-1120	4.7x3.1"	1.18mil	1.26mil	.787"	.787"	.197"
4760-1150	5.9x3.9"	1.26mil	1.38mil	.787"	.787"	.197"
4760-1200	7.9x5.1"	1.46mil	1.58mil	.984"	.984"	.197"

- Made of hardened stainless steel



4762-100

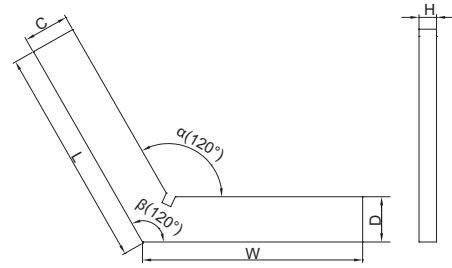
60° SQUARE WITH WIDE BASE



Part No.	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4762-100	3.9x2.8"	1.10mil	1.22mil	.787"	.787"	.197"	.787"
4762-120	4.7x3.1"	1.18mil	1.30mil	.787"	.787"	.197"	.787"
4762-150	5.9x3.9"	1.30mil	1.42mil	.787"	.787"	.197"	.787"
4762-200	7.9x5.1"	1.46mil	1.61mil	.984"	.984"	.197"	.984"

- Made of hardened stainless steel

120° SQUARE

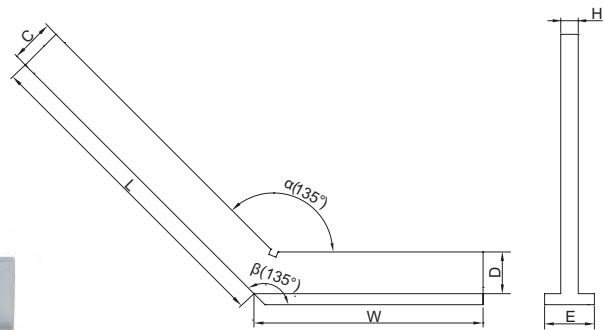


4706-1100

■ Made of hardened stainless steel

Part No.	Size (LxW)	Accuracy		C	D	H
		Inside (α)	Outside (β)			
4706-150	2.0x2.0"	.95mil	.98mil	.591"	.591"	.197"
4706-175	3.0x3.0"	1.02mil	1.10mil	.787"	.787"	.197"
4706-1100	3.9x3.9"	1.14mil	1.18mil	.787"	.787"	.197"
4706-1150	5.9x5.9"	1.34mil	1.38mil	.984"	.984"	.197"
4706-1200	7.9x7.9"	1.50mil	1.58mil	1.181"	1.181"	.276"

135° SQUARE WITH WIDE BASE



4754-3120

■ Made of hardened stainless steel

Part No.	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4754-3100	3.9x2.8"	1.14mil	1.22mil	.787"	.787"	.197"	.787"
4754-3120	4.7x3.1"	1.22mil	1.30mil	.787"	.787"	.197"	.787"
4754-3150	5.9x3.9"	1.34mil	1.42mil	.787"	.787"	.197"	.787"
4754-3200	7.9x5.1"	1.54mil	1.61mil	1.181"	1.181"	.276"	1.181"
4754-3250	9.8x6.5"	1.73mil	1.81mil	1.181"	1.181"	.276"	1.181"
4754-3300	11.8x6.9"	1.93mil	2.01mil	1.378"	1.378"	.276"	1.378"

RELATIVE PRODUCT:
STRAIGHT EDGE
(PART NO. 7117-, 7118-)

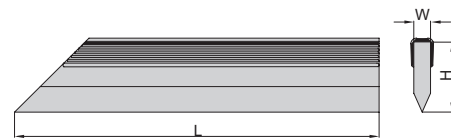
STRAIGHT EDGE

- DIN874
- Satin chrome plating
- Beveled edge
- Made of hardened stainless steel

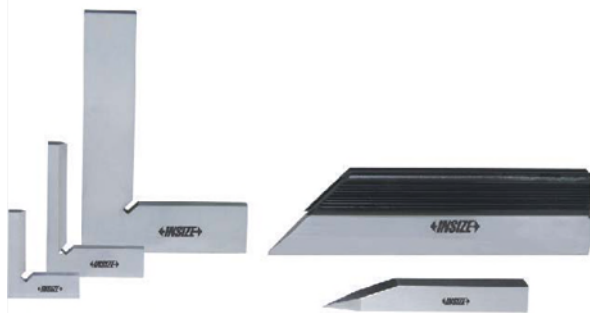
Part No.	Size (L)	Straightness	W	H
4700-50	2.0"	87µin	.197"	.787"
4700-75	3.0"	91µin	.197"	.984"
4700-100	3.9"	94µin	.197"	.984"
4700-125	4.9"	98µin	.197"	.984"
4700-150	5.9"	102µin	.236"	1.181"
4700-200	7.9"	110µin	.236"	1.181"
4700-250	9.8"	118µin	.315"	1.575"
4700-300	11.8"	126µin	.315"	1.575"
4700-400	15.7"	142µin	.394"	1.969"
4700-500	19.7"	157µin	.394"	1.969"



4700-100

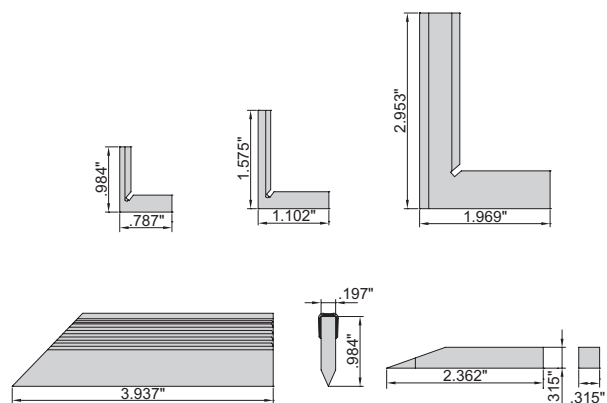


SQUARE SET



4702-1

- Includes:
 - 90° tool maker square 1.0x.8" DIN875 grade 00 (part no. **4794-025**)
 - 90° tool maker square 1.6x1.1" DIN875 grade 00 (part no. **4794-040**)
 - 90° beveled edge square 3.0x2.0" DIN875 grade 00 (part no. **4790-075**)
 - straight edge 3.9" DIN874 (part no. **4700-100**)
 - scriber
- Made of hardened stainless steel



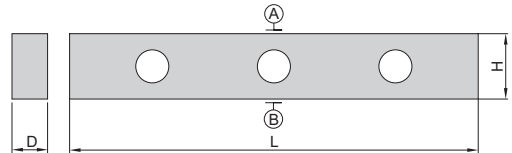
Part No.

4702-1

GRANITE STRAIGHT EDGE



4147-500A

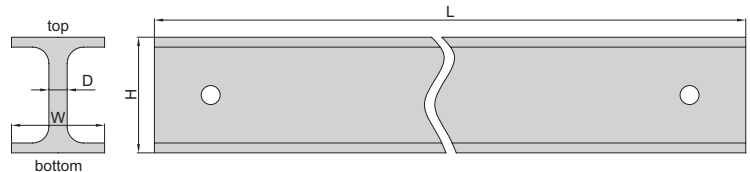


Part No.	Length (L)	Flatness of A and B	Parallelism between A and B	D	H
4147-500A	20"	83 μ in	126 μ in	1.969"	3.150"
4147-1000A	40"	118 μ in	177 μ in	2.362"	4.724"

MAGNALIUM STRAIGHT EDGE



4180-500



- Made of magnalium, light weight, non-deform, no rusty

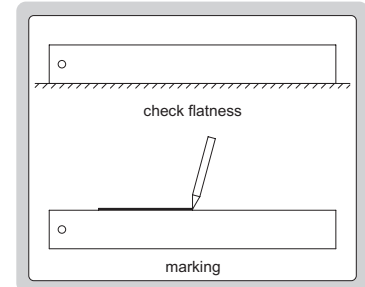
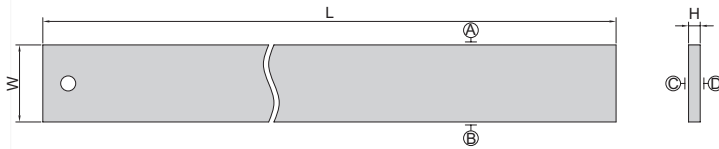
Part No.	Length (L)	Flatness of top and bottom	Parallelism between top and bottom	H	W	D
4180-500	20"	118 μ in	157 μ in	2.362"	1.181"	.197"
4180-1000	40"	197 μ in	315 μ in	2.362"	1.181"	.197"
4180-1500	60"	591 μ in	866 μ in	3.937"	1.575"	.197"
4180-2000	80"	709 μ in	1063 μ in	3.937"	1.575"	.315"

RELATIVE PRODUCT:
STRAIGHT EDGE
(PART NO. 4700-, 7118-)

PRECISION STRAIGHT EDGE



7117-300



- Check flatness, straightness and parallelism, as well as for marking
- Made of tool steel
- Hardness HRC58

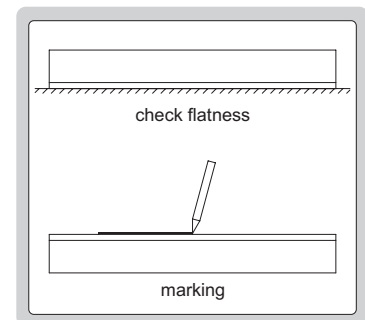
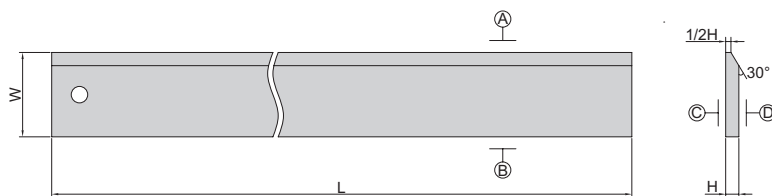
Part No.	Range (L)	Straightness and parallelism of A and B	Straightness and parallelism of C and D	W	H
7117-300	12"	.20mil	1.97mil	1.614"	.248"
7117-600	24"	.24mil	2.36mil	2.008"	.311"
7117-900	36"	.28mil	2.36mil	2.520"	.374"

RELATIVE PRODUCT:
STRAIGHT EDGE
(PART NO. 4700-, 7117-)

PRECISION STRAIGHT EDGE WITH BEVELED EDGE



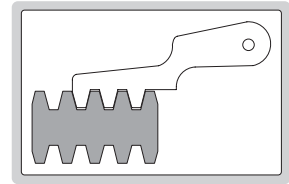
7118-300



- Check flatness, straightness and parallelism, as well as for marking
- Made of tool steel
- Hardness HRC58

Part No.	Range (L)	Straightness and parallelism of A and B	Straightness and parallelism of C and D	W	H
7118-300	12"	.20mil	1.97mil	1.614"	.256"
7118-600	24"	.24mil	2.36mil	2.008"	.315"
7118-900	36"	.28mil	2.36mil	2.520"	.394"

PITCH GAGE

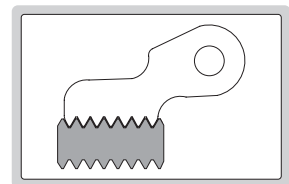


4824-12

- Check the pitch of screw thread
- Accuracy: ± 0.0028 "

Part No.	Range	Thread type	Pitch of leaves included	Quantity of leaves
4824-16	1 - 12TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI	16
4824-12	2 - 20mm	Tr 30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm	12

PITCH GAGE



4820-122

- Check the pitch of screw thread
- Accuracy: ± 0.0028 "

Unified 60° screw

Part No.	Range	Pitch of leaves included	Quantity of leaves
4820-230	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30

Metric 60° screw

Part No.	Range	Pitch of leaves included	Quantity of leaves
4820-122	0.4-7.0mm	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	22
4820-124	0.25-7.0mm	0.25, 0.3, 0.35, 0.4, 0.5, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	24

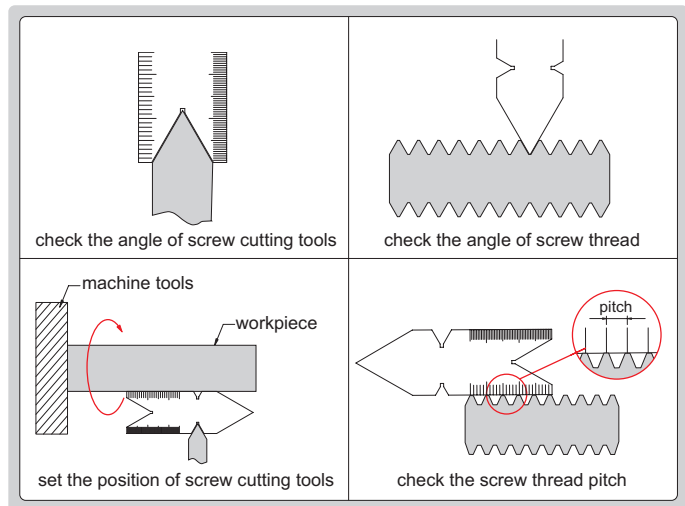
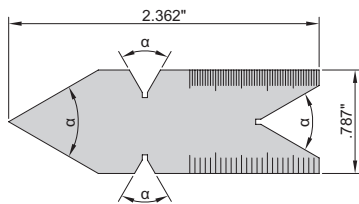
Whitworth 55° screw

Part No.	Range	Pitch of leaves included	Quantity of leaves
4820-330	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30
4820-328	4-62TPI	4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	28

CENTER GAGE



4810-602



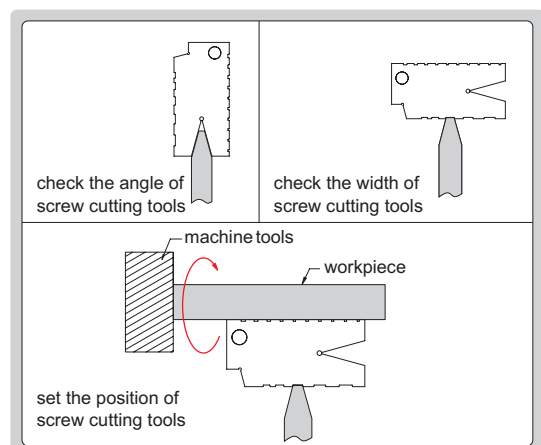
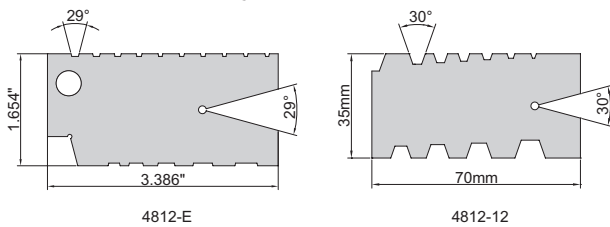
- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy: $\pm 30\text{min}$.

Part No.	Thread type	Angle (α)	Graduation
4810-602	UNIFIED 60°	60°	14ths and 20ths on front side, 24ths and 32ths on back side
4810-601	METRIC 60°	60°	0.5mm and 1mm
4810-55	WHITWORTH 55°	55°	14ths and 20ths on front side, 24ths and 32ths on back side

THREAD GAGE



4812-E



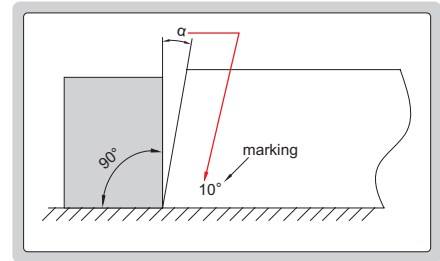
- To check and set screw cutting tools
- Angle accuracy: $\pm 10\text{min}$.

Part No.	Range	Thread type	Pitch
4812-E	1 - 10TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI
4812-12	2 - 12mm	Tr30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm

ANGLE GAGE



4806-20



Part No.	Range	Angle of leaves included	Quantity of leaves	Accuracy
4806-20	1°-45°	1°, 2°, 3°, 4°, 5°, 6°, 7°, 8°, 9°, 10°, 12°, 14°, 16°, 18°, 20°, 25°, 30°, 35°, 40°, 45°	20	±30'

ANGLE GAGE SET

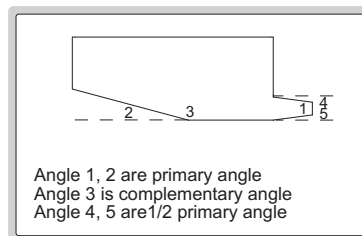
- Each blade checks primary, 1/2 primary and complementary angles

Part No.	Quantity of leaves	Accuracy
4807	18	±10'

Primary angle	1/2 primary angle	Complementary angle	Type
5°	2°30'	175°	A
10°	5°	170°	A
15°	7°30'	165°	A
20°	10°	160°	B
25°	12°30'	155°	B
30°	15°	150°	B
35°	17°30'	145°	B
40°	20°	140°	B
45°	22°30'	135°	B
50°	25°	130°	B
55°	27°30'	125°	B
60°	30°	120°	B
65°	32°30'	115°	B
70°	35°	110°	B
75°	37°30'	105°	B
80°	40°	100°	B
85°	42°30'	95°	B
90°	45°	90°	B

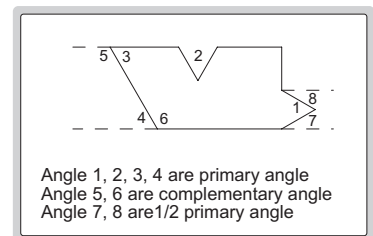


4807



Angle 1, 2 are primary angle
Angle 3 is complementary angle
Angle 4, 5 are 1/2 primary angle

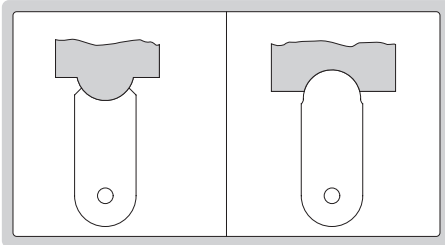
type A



Angle 1, 2, 3, 4 are primary angle
Angle 5, 6 are complementary angle
Angle 7, 8 are 1/2 primary angle

type B

RADIUS GAGE

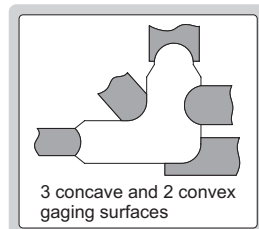


4801-15E

Part No.	Range	Radius of leaves included	Quantity of leaves (internal + external)	Accuracy
4801-15E	1/32" - 1/4"	1/32", 3/64", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4"	15+15	±.0012"
4801-16E	17/64" - 1/2"	17/64", 9/32", 19/64", 5/16", 21/64", 11/32", 23/64", 3/8", 25/64", 13/32", 27/64", 7/16", 29/64", 15/32", 31/64", 1/2"	16+16	±.0014"
4801-16E1	17/32" - 1"	17/32", 9/16", 19/32", 5/8", 21/32", 11/16", 23/32", 3/4", 25/32", 13/16", 27/32", 7/8", 29/32", 15/16", 31/32", 1"	16+16	±.0017"

RADIUS GAGE SET

- Each piece has 3 concave and 2 convex gauging surfaces



use of handle



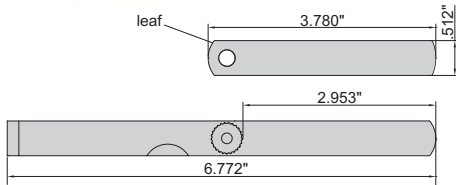
4804-26

Part No.	Range	Radius of leaves included	Quantity Of leaves	Accuracy	Handle
4804-25E	1/64" - 1/2"	1/64", 1/32", 3/64", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4", 17/64", 9/32", 5/16", 11/32", 3/8", 13/32", 7/16", 15/32", 1/2"	25	±.002"	with
4804-26E	.010" - .5"	.010", .015", .020", .025", .030", .040", .050", .060", .070", .080", .090", .100", .12", .14", .16", .18", .20", .22", .24", .26", .28", .30", .35", .40", .45", .50"	26	±.002"	with
4804-8E	9/16" - 1"	9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	8	±.0025"	without
4804-8E1	1-1/16" - 1-1/2"	1-1/16", 1-1/8", 1-3/16", 1-1/4", 1-5/16", 1-3/8", 1-7/16", 1-1/2"	8	±.003"	without
4804-26	0.5 - 13mm	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13mm	26	±0.05mm	with

FEELER GAGE



4608-31



Part No.	Range	Quantity of leaves
4608-31	.0015" ~ .035"	32

- .010" is made of brass, others are made of hardened alloy steel
- Each blade is marked with inch/metric size

Thickness of leaves included	Accuracy
.010" (brass)	±.0002"
.0015", .002"	±.0002"
.0025", .003", .004", .005", .006", .007"	±.00028"
.008", .009"	±.00035"
.010", .011"	±.00039"
.012", .013"	±.00047"
.014", .015"	±.00051"
.016", .017"	±.00055"
.018", .019"	±.00059"
.020", .021"	±.00067"
.022", .023"	±.00071"
.024", .025", .026"	±.00075"
.028"	±.00091"
.030"	±.00094"
.032", .035"	±.00102"

TAPER GAGE



4833-1

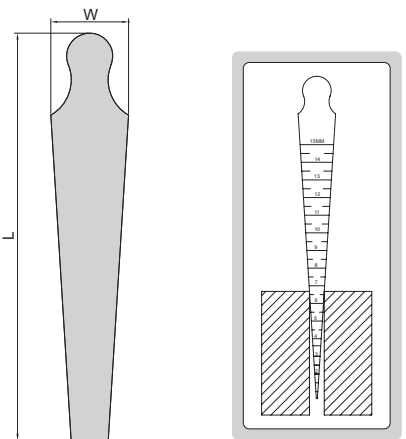
4833-2

4833-3

4833-4

- Measure opening, slot width, hole size, etc.
- Made of stainless steel

Part No.	Range	Graduation	Accuracy	L	W
4833-1	1/32"-5/8" (0.8-15mm)	1/64" (0.1mm)	.004" (±0.1mm)	5.748"	.669"
4833-2	5/8"-1-3/16" (15-30mm)	1/64" (0.1mm)	.004" (±0.1mm)	6.260"	1.197"
4833-3	1-3/16"-1-3/4" (30-45mm)	1/64" (0.1mm)	.004" (±0.1mm)	6.535"	1.787"
4833-4	1-13/16"-2-3/8" (45-60mm)	1/64" (0.1mm)	.004" (±0.1mm)	6.693"	2.382"



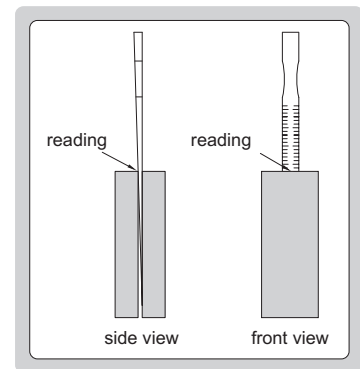
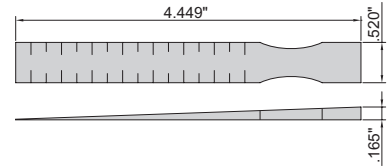
TAPER GAGE



4630-1E

- For quick measurement of gap width
- Stain chrome plated reading surface
- Made of stainless steel

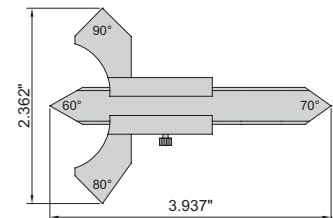
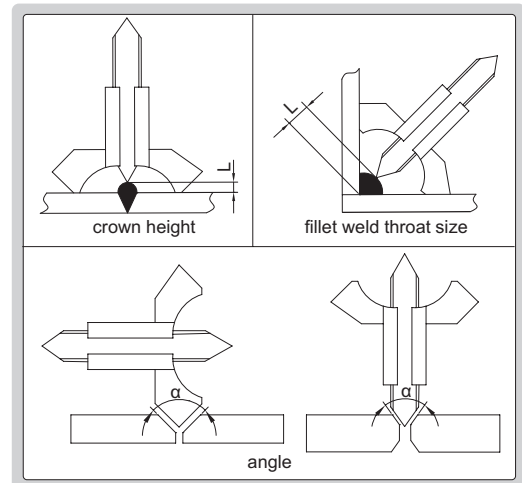
Part No.	Range	Graduation	Accuracy
4630-1E	.01"-.15"	.001"	±.003"



WELDING GAGE



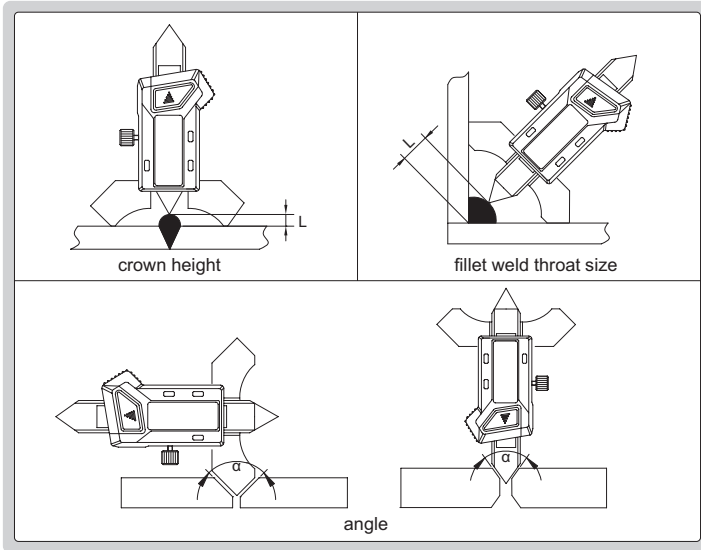
4830-E



Part No.	Measurement	Range	Graduation	Accuracy
4830-E	crown height	0 - 5/16"	1/128"	±.0039"
	fillet weld throat size	0 - 9/16"	1/128"	±.0118"
	angle	60°, 70°, 80°, 90°	—	±1°

- Made of stainless steel
- Stain chrome plated reading surface

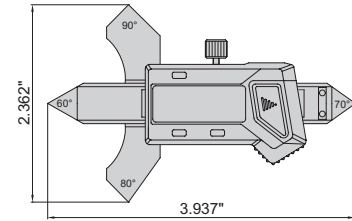
ELECTRONIC WELDING GAGE



ATTENTION:
NO DATA OUTPUT



4831-20A



Part No.	Measurement	Range	Resolution	Accuracy
4831-20A	crown height	0 - .4"/0 - 7mm	.0005"/0.01mm	±.0012"
	fillet weld throat size	0 - .8"/0 - 20mm	.0005"/0.01mm	±.0039"
	angle	60°, 70°, 80°, 90°	—	±1°

- Buttons: zero, inch/mm, on/off
- Battery SR44 or LR44
- Made of stainless steel

FILLET WELD GAGE

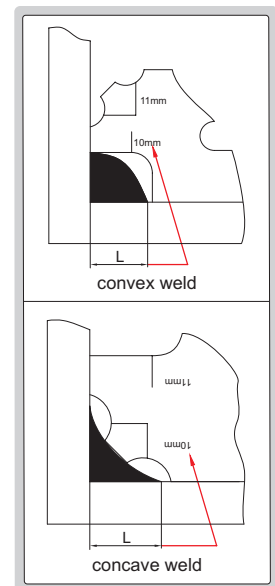


4836-2

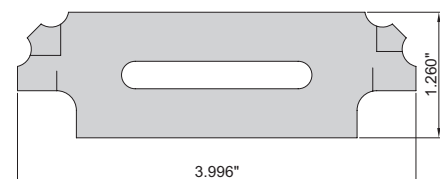


4836-1

- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel



Part No.	Size	Accuracy
4836-2	1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm)	±.02" (0.5mm)
4836-1	3mm, 4mm, 5mm, 6mm, 8mm, 9mm, 10mm, 11mm, 12mm, 14mm, 16mm, 19mm, 22mm, 25mm	±0.5mm



WELDING GAGE

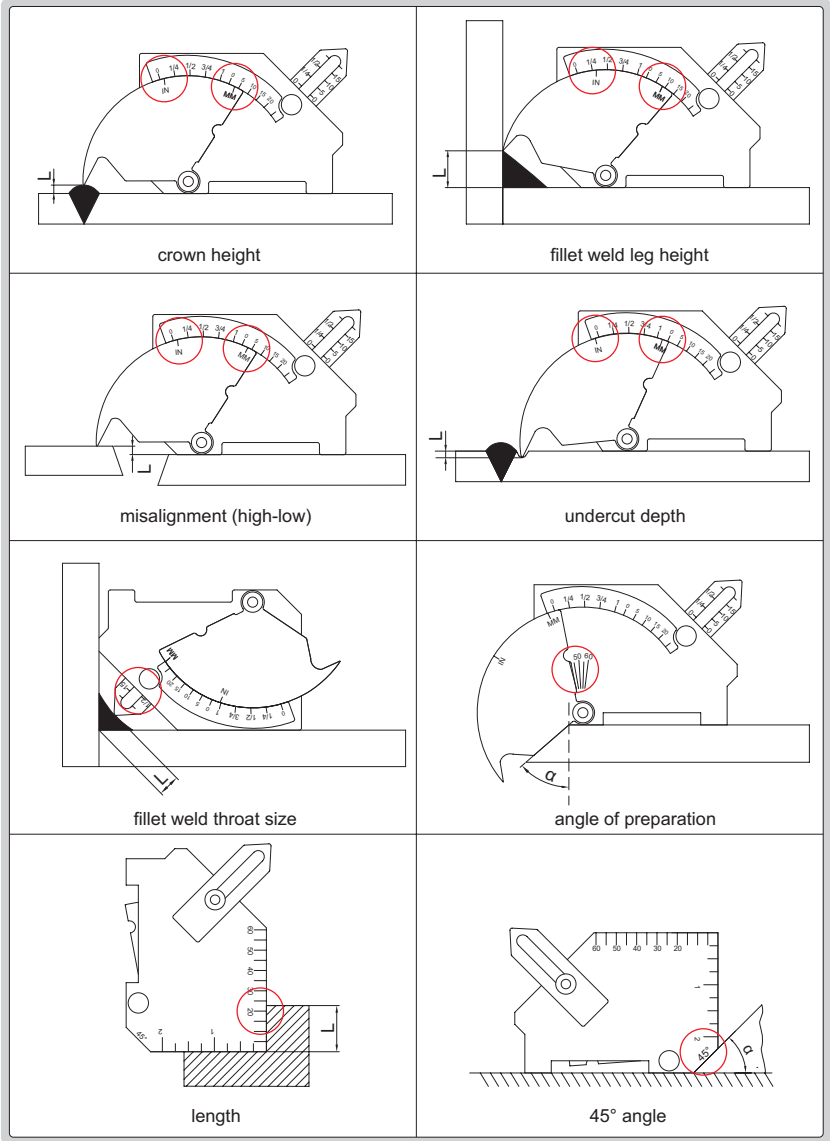


front



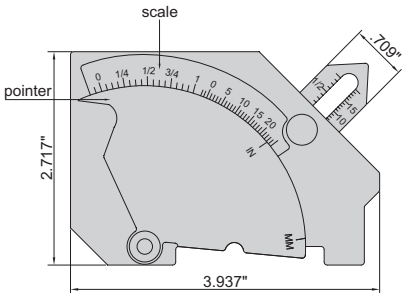
back

4835-1

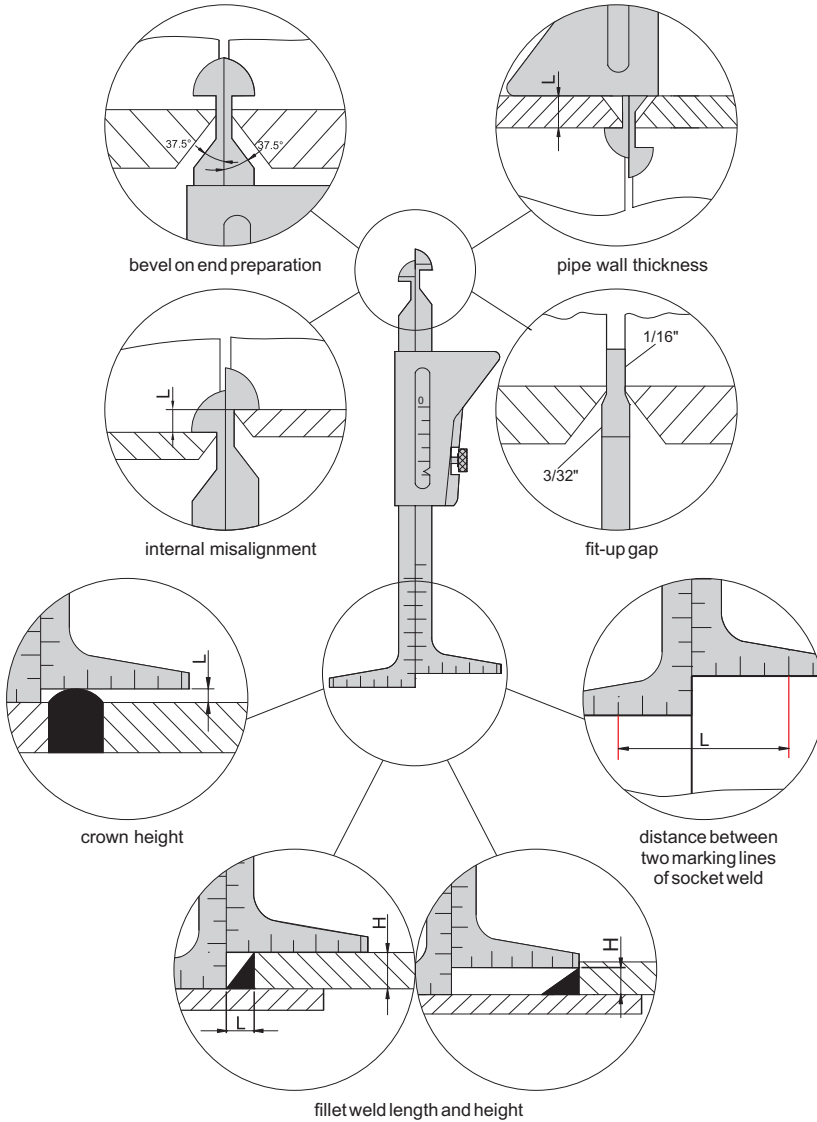


- Adjustable scale to compensate pointer wear
- Made of stainless steel

Part No.	Measurement	Range	Graduation	Accuracy
4835-1	crown height	0 - 1" (0 - 25mm)	1/16" (1mm)	±.02"
	fillet weld leg height	0 - 1" (0 - 25mm)	1/16" (1mm)	±.02"
	misalignment (high-low)	0 - 1" (0 - 25mm)	1/16" (1mm)	±.02"
	undercut depth	0 - 1/8" (0 - 2mm)	1/16" (1mm)	±.02"
	fillet weld throat size	0 - 3/4" (0 - 20mm)	1/16" (1mm)	±.02"
	angle of preparation	0 - 60°	5°	±1°
	length	0-2" (0 - 60mm)	1/16" (1mm)	±.02"
	45° angle	—	—	±1°



PIPE WELDING GAGE

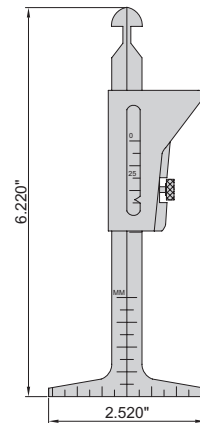


front



back

4839-1



■ Made of stainless steel

Part No.	Measurement	Range	Graduation	Accuracy
4839-1	bevel on end preparation	37.5°	—	±1°
	pipe wall thickness	0 – 1-3/4" (0 - 45mm)	1/16" (1mm)	±.02"
	internal misalignment	0 – 1-3/8" (0 - 35mm)	1/32" (1mm)	±.02"
	fit-up gap	1/16", 3/32"	—	±.004"
	crown height	0 – 1-3/8" (0 - 35mm)	1/32" (1mm)	±.02"
	distance between two marking lines of socket weld	0 – 2-3/8" (0 - 60mm)	1/16" (1mm)	±.02"
	fillet weld length	0 – 1-1/4" (0 - 30mm)	1/16" (1mm)	±.02"
	fillet weld height	0 – 1-3/8" (0 - 35mm)	1/32" (1mm)	±.02"

WIRE GAGE

- For gaging non-ferrous wire and metals such as copper, brass and aluminum
- Hardened and satin chrome finish



4808

Part No.	Range
4808	0-36

SHEET METAL GAGE

- For gaging sheet metal, plate iron and steel
- Hardened and satin chrome finish



4809

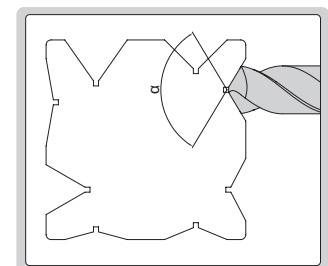
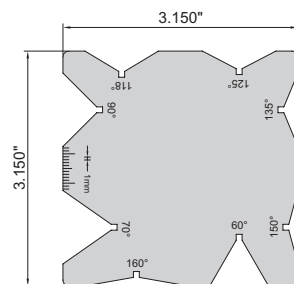
Part No.	Range
4809	0-36

DRILL ANGLE GAGE



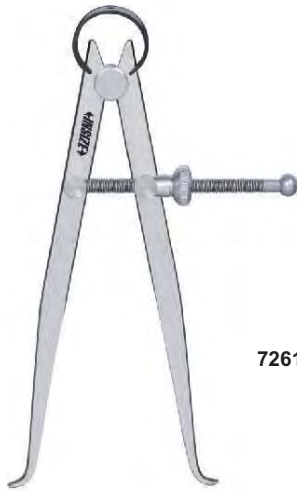
4842-1

- Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- Made of stainless steel



Part No.	Accuracy
4842-1	±0.5°

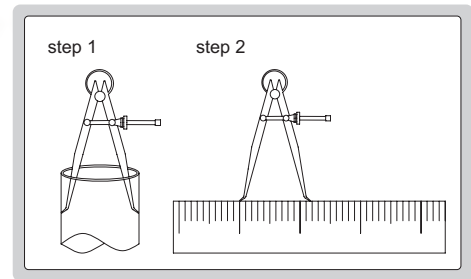
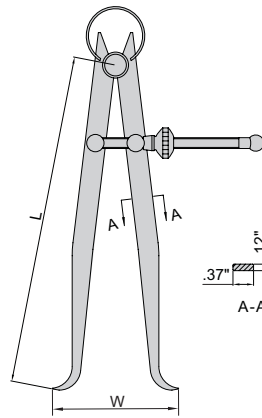
INSIDE SPRING CALIPER



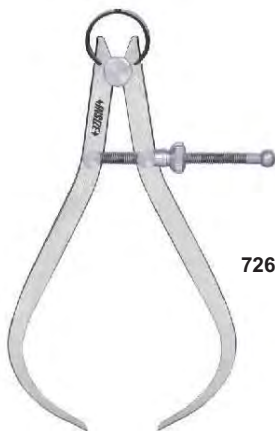
7261-150

- Made of carbon steel

Part No.	Size (L)	Range (W)
7261-150	6"	.79 - 6.69"
7261-200	8"	.87 - 8.66"
7261-250	10"	1.18 - 10.63"
7261-300	12"	1.18 - 12.60"



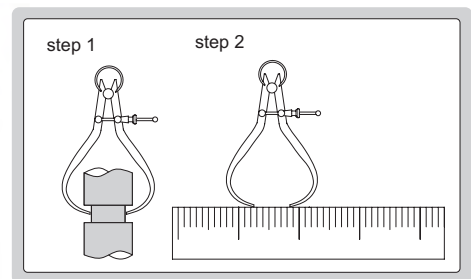
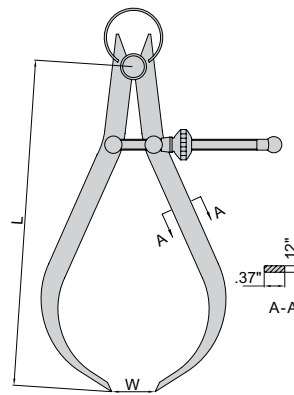
OUTSIDE SPRING CALIPER



7262-150

- Made of carbon steel

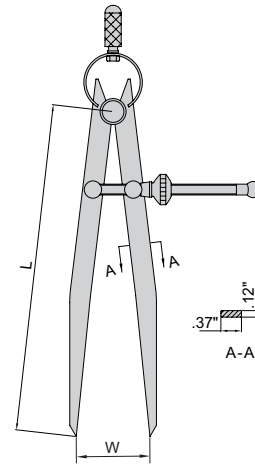
Part No.	Size (L)	Range (W)
7262-150	6"	0 - 5.51"
7262-200	8"	0 - 8.27"
7262-250	10"	0 - 10.63"
7262-300	12"	0 - 12.60"



SPRING DIVIDER

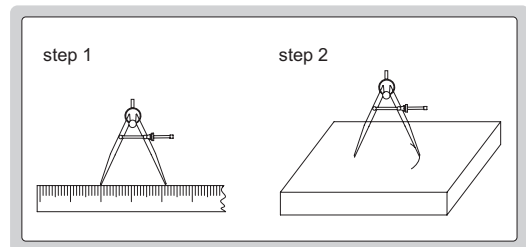


7260-150



- Made of carbon steel
- Hardened points

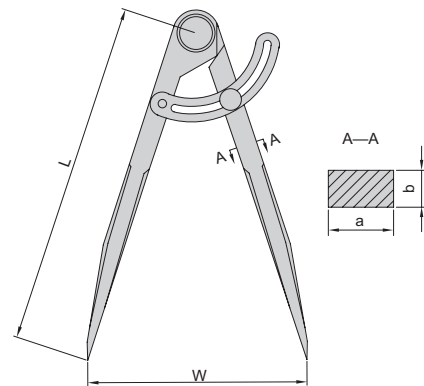
Part No.	Size (L)	Range (W)
7260-150	6"	0 - 5.91"
7260-200	8"	0 - 8.27"
7260-250	10"	0 - 10.24"
7260-300	12"	0 - 12.60"



DIVIDER

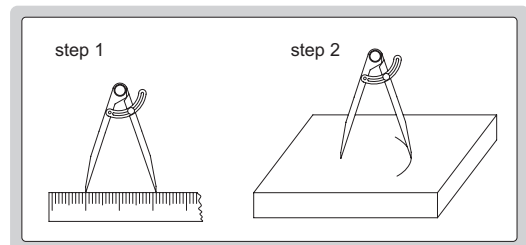


7247-150



- Made of carbon steel
- Hardened points

Part No.	Size (L)	Range (W)	a	b
7247-150	6"	0 - 5.51"	.33"	.28"
7247-200	8"	0 - 7.48"	.39"	.28"
7247-300	12"	0 - 11.42"	.47"	.28"



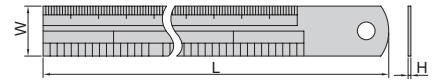
STEEL RULE

ATTENTION:
BASIC MODEL



7110-300

- Graduation: 1/64", 1/32", 1/16", 0.5mm, 1mm
- Semi-flexible rules
- Made of stainless steel
- Non-glare surface



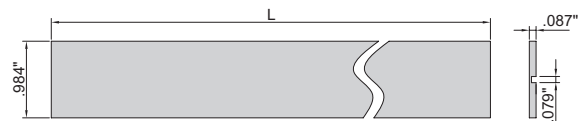
Part No.	Range	Accuracy	L	W	H	Remark
7110-150	6"/150mm	±.003"	6.693"	.709"	.039"	graduation on front and back
7110-200	8"/200mm	±.003"	8.661"	.709"	.039"	graduation on front and back
7110-300	12"/300mm	±.004"	12.992"	.984"	.039"	graduation on front and back
7110-500	20"/500mm	±.006"	20.866"	1.181"	.047"	graduation on front and back
7110-600	24"/600mm	±.006"	24.803"	1.181"	.047"	graduation on front and back
7110-1000	40"/1000mm	±.008"	40.945"	1.260"	.059"	graduation on front and back
7110-1200	48"/1200mm	±.009"	48.819"	1.378"	.071"	graduation on front
7110-1500	60"/1500mm	±.014"	61.024"	1.496"	.071"	graduation on front
7110-2000	80"/2000mm	±.018"	81.299"	1.575"	.079"	graduation on front

RIGID RULE

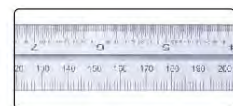


7113-300A

- Rigid rules
- With groove on the back, suitable for combination square set (part no. 2278-180 and 2278-180E)
- Satin chrome plated



Part No.	Range	Graduation		Accuracy	L
		front	back		
7113-300A	12"/300mm	1/32" and 0.5mm	1/64" and 1mm	±.006"	12"



groove on the back

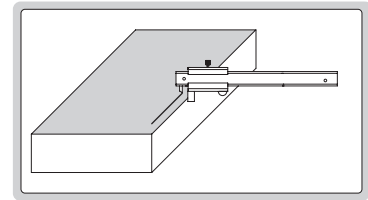
SCRIBER CALIPER



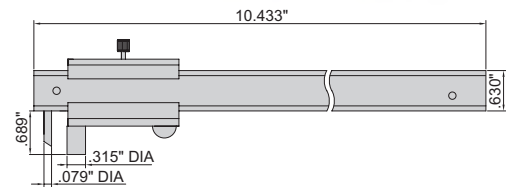
7202-200A

- Made of stainless steel
- Satin chrome plated reading surface
- Carbide scribe tip

Part No.	Range	Graduation	Accuracy
7202-200A	0-8"/0-200mm	1/128", 0.1mm	±.004"



The position of scribe tip can be adjusted



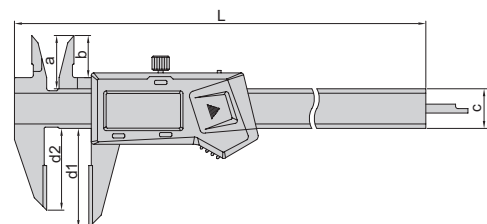
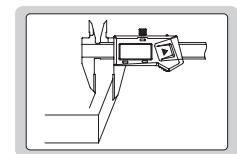
ELECTRONIC SCRIBING CALIPER



1166-150A

DATA
OUTPUT

- The carbide-tipped jaws facilitate scribing on workpieces
- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)

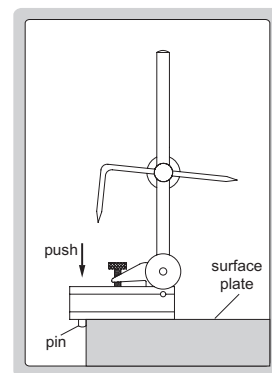
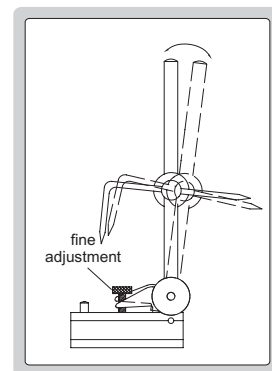
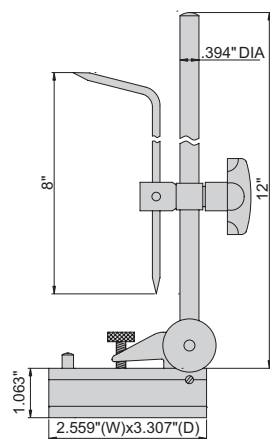


Part No.	Range	Accuracy	L	a	b	c	d1	d2
1166-150A	0-6"/0-150mm	±.0012"	9.291"	.827"	.650"	.630"	1.575"	1.299"
1166-200A	0-8"/0-200mm	±.0012"	11.260"	.945"	.768"	.630"	1.969"	1.693"
1166-300A	0-12"/0-300mm	±.0016"	15.748"	.984"	.807"	.669"	2.362"	2.087"

HEIGHT SCRIBER



6990-300A



Part No.
6990-300A

- Grooved bottom for cylinder
- Two pins to be set against the edge of surface plate

SCRIBER



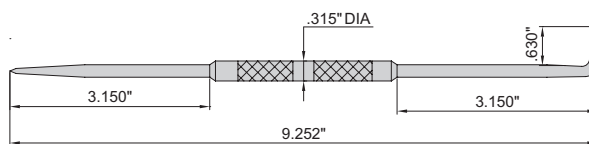
7230



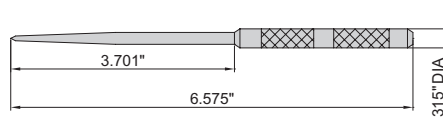
7231



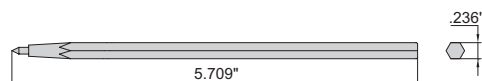
7232



7230



7231



7232

- Nickel plated

Part No.	Tip
7230	hardened tips
7231	hardened tip
7232	carbide tip

LONG DRIVE PIN PUNCH

- Made of tool steel, black oxide finish
- Hardened and tempered both ends
- Knurled finger grip for ease of use
- 5pcs set
- 8" length, drive pin section 3-1/2" long



Part No.	Point size (DIA)
7253	1/8", 3/16", 1/4", 5/16", 3/8"

7253

DRIVE PIN PUNCH

- Made of tool steel, black oxide finish
- Hardened and tempered both ends
- Knurled finger grip for ease of use
- 8pcs set
- 4" length



Part No.	Point size (DIA)
7252	1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16"

7252

CENTER PUNCH

- Made of tool steel, black oxide finish
- Hardened and tempered both ends
- Knurled finger grip for ease of use
- 5pcs set
- 4" length, 1/16" diameter



Part No.	Point size (DIA)
7251	1/16", 5/64", 3/32", 9/64", 5/32"

7251

GRANITE SURFACE PLATE

ADDITIONAL CUSTOM SIZES UP TO 6.5' AVAILABLE ON REQUEST

- Made of granite, free from deterioration or dimensional change over time, minimal changes in dimension due to temperature changes
- Meet GGG-P-463C
- Optional accessory: stand for granite surface plate (part no. 6902), jack for granite surface plate (part no. 6903)



Grade A

Part No.	Size (LxWxH)	Flatness	Weight (lb)
6900-A11 *	12x18x3"	.12mil	32
6900-A12 *	18x24x3"	.13mil	64
6900-A23 *	24x36x4"	.15mil	170
6900-A34 *	36x48x6"	.18mil	510

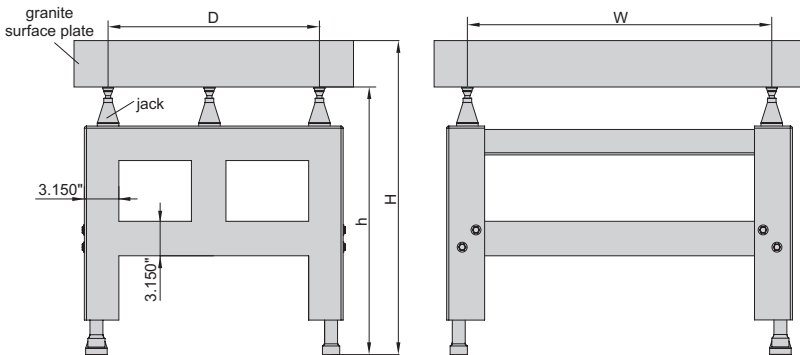
6900-A11



* Supplied with manufacturer inspection certificate

STAND FOR GRANITE SURFACE PLATE

CUSTOM-MADE
H=40" (INCLUDING PLATE) IS AVAILABLE



6902-64A

- For medium size granite surface plates
- Adjusting range of jacks: 1"
- One foot on the bottom is adjustable

Part No.	For granite surface plate	W	D	H (with granite surface plates)	h (without granite surface plates)
6902-64A	12x18x3" (part no. 6900-A11)	13.858"	8.819"	29.724"-30.709"	26.575"-27.559"
6902-85A	18x24x3" (part no. 6900-A12)	17.638"	11.024"	29.724"-30.709"	25.787"-26.772"
6902-106A	24x36x4" (part no. 6900-A23)	22.047"	13.858"	28.937"-29.921"	23.425"-24.409"
6902-161A	36x48x6" (part no. 6900-A34)	35.276"	22.047"	28.937"-29.921"	21.850"-22.835"

JACK SET FOR GRANITE SURFACE PLATE

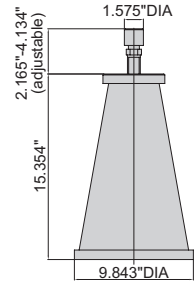


6903-B

Part No.

6903-B

- 5 jacks per set
- Adjustable height
- For large granite surface plates over 6.5ft

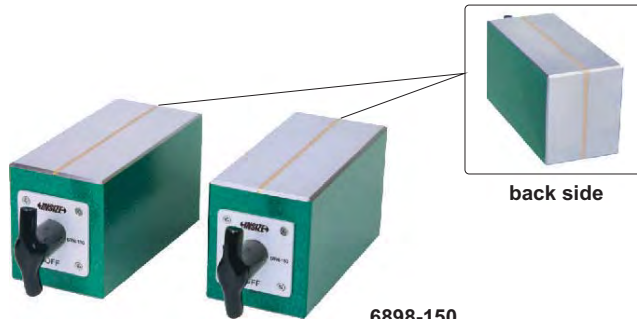


HARDENED SURFACES

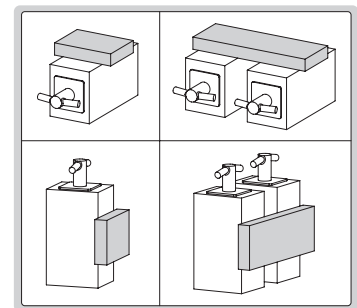
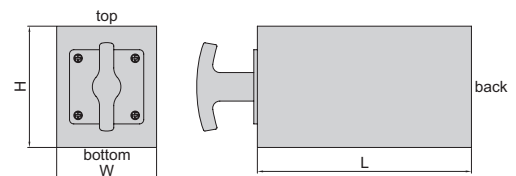
HIGH PRECISION

STRONG MAGNETIC FORCE

MAGNETIC RECTANGULAR BLOCKS



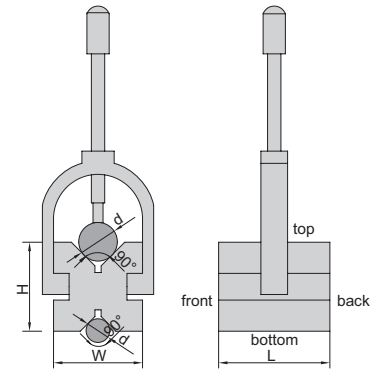
6898-150



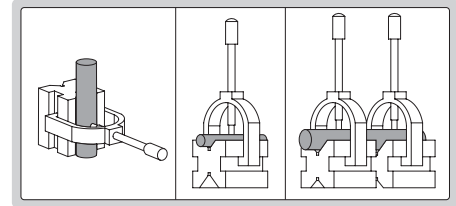
- For grinding, light milling, drilling and inspection of round and square jobs
- Hardened, high accuracy, strong magnetic force
- Working surfaces are hardened to HRC58-62
- Magnetic force on top, bottom and back sides
- Supplied in matched pair

Part No.	Size (LxWxH)	Magnetic force	Parallelism of top to bottom side	Squareness of top and bottom to back side	Height difference of a matched pair
6898-100	3.9x2.8x2.8"	220lbf	197µin	197µin	197µin
6898-150	5.9x2.8x3.3"	275lbf	197µin	197µin	197µin

V-BLOCK SET



- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts (except 6896-10)



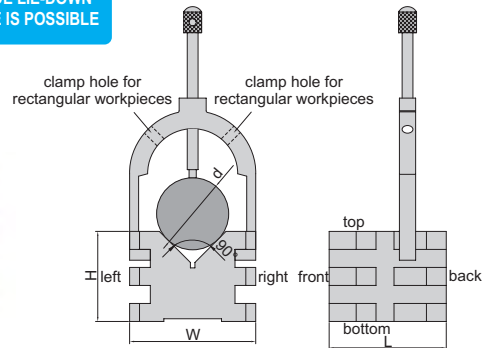
Part No.	Size (LxWxH)	Range of shafts (d)	Parallelism of V grooves to top and bottom sides	Squareness of V grooves to front and back sides	Height difference of a matched pair
6896-10	1.0x.8x.8"	.12 - .79" DIA	118µin	118µin	118µin
6896-11	2.0x1.6x1.6"	.20 - 1.18" DIA	197µin	197µin	197µin
6896-12	3.1x2.5x2.5"	.28 - 2.48" DIA	197µin	197µin	197µin
6896-13	3.9x3.1x3.1"	.28 - 3.15" DIA	197µin	197µin	197µin
6896-14	5.5x2.8x5.5"	.35 - 5.51" DIA	197µin	197µin	197µin

V-BLOCK SET

- Hold cylindrical or rectangular workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- Applicable for cylinder with diameter (d): .20 - 1.97" DIA
- Applicable for rectangular workpieces with thickness: ≤1.38"

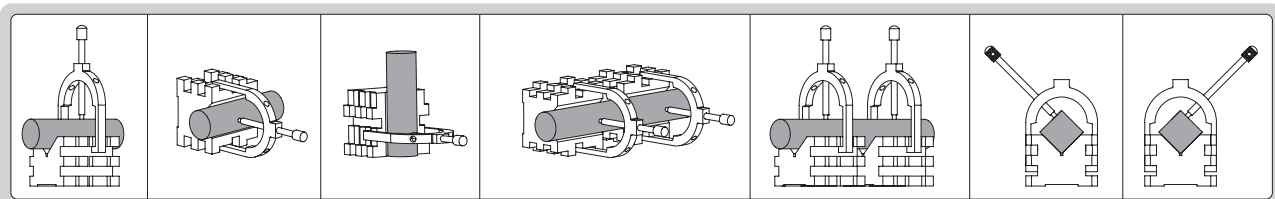


SIDE LIE-DOWN USE IS POSSIBLE



6802-1

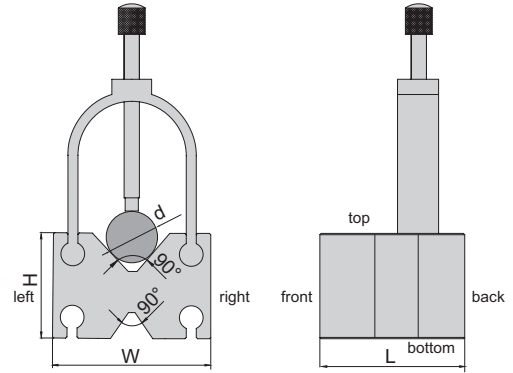
Part No.	Size (LxWxH)	Parallelism of V groove to top, bottom, left, right sides	Squareness of V groove to front and back sides	Height difference of a matched pair
6802-1	2.6x2.8x2.0"	197µin	197µin	197µin



SIDE LIE-DOWN
USE IS POSSIBLE

V-BLOCK SET

6803-1



- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts

side lie-down use is possible

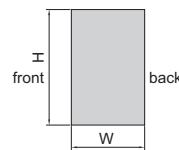


Part No.	Size (LxWxH)	Range of shafts (d)	Parallelism of both V grooves to top, bottom, left, right sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
6803-1	1.0x.8x.8"	.16 - 1.38" DIA	197µin	197µin	197µin
6803-2	2.0x1.6x1.6"	.16 - 1.85" DIA	197µin	197µin	197µin

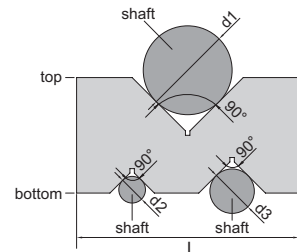


6887-3

- Two V blocks per set
- Made of hardened tool steel

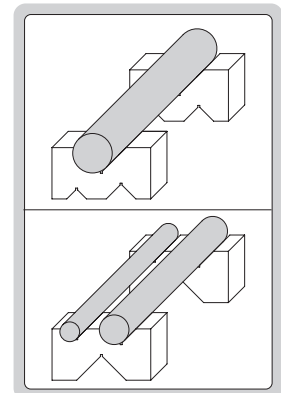


V-BLOCK SET



Part No.	Size (LxWxH)	Range of shafts(d1)	Range of shafts(d2)	Range of shafts(d3)
6887-1	2.0x.7x.9"	.12 - 1.26" DIA	.12 - .63" DIA	.12 - .87" DIA
6887-2	3.0x.9x1.4"	.12 - 1.97" DIA	.12 - .79" DIA	.12 - 1.26" DIA
6887-3	3.9x1.3x2.0"	.12 - 2.68" DIA	.12 - 1.02" DIA	.12 - 1.57" DIA
6887-4	4.9x1.7x2.7"	.12 - 3.43" DIA	.12 - 1.34" DIA	.12 - 1.97" DIA

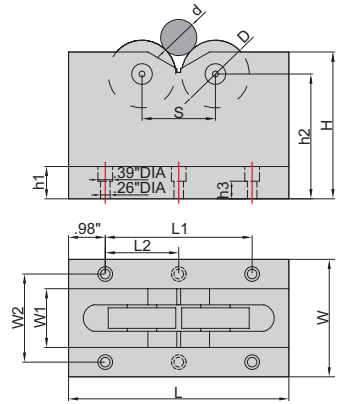
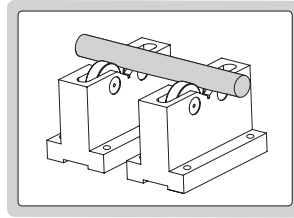
Part No.	Parallelism of three V grooves to top and bottom sides	Squareness of three V grooves to front and back sides	Height difference of a matched pair
6887-1	197µin	197µin	197µin
6887-2	197µin	197µin	197µin
6887-3	197µin	197µin	197µin
6887-4	197µin	197µin	197µin



ROLLER BEARING V-BLOCK SET



6888-1



- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces

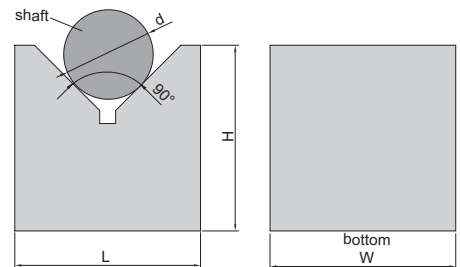
Part No.	W1	W2	h1	h2	h3	L1	L2	S
6888-1	.87"	1.73"	.79"	3.35"	.47"	3.94"	-	2.36"
6888-2	1.57"	2.36"	.87"	3.35"	.47"	3.94"	-	1.97"
6888-3	2.36"	3.15"	1.18"	4.88"	.79"	7.09"	3.54"	4.72"

Part No.	Size (LxWxH)	Diameter of bearings (D)	Range of shafts (d)	Parallelism of bearings to bottom	Load capacity
6888-1	5.9x2.4x3.9"	1.65"DIA	.98 - 2.76" DIA	472µin	1100lb
6888-2	5.9x3.1x3.9"	1.85"DIA	.20 - 2.17" DIA	472µin	2200lb
6888-3	9.1x3.9x5.9"	2.83"DIA	2.76 - 7.87" DIA	472µin	2200lb

GRANITE V-BLOCK SET

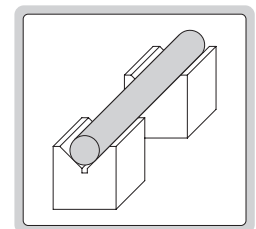


6897-1



- Two V-blocks per set

Part No.	Size (LxWxH)	Range of shafts (d)	Parallelism of V groove to bottom	Height difference of a matchet pair
6897-1	2.8x2.0x2.8"	.24 - 2.95" DIA	157µin	197µin
6897-2	3.9x2.0x2.8"	.24 - 3.90" DIA	157µin	197µin



MAGNETIC V-BLOCKS

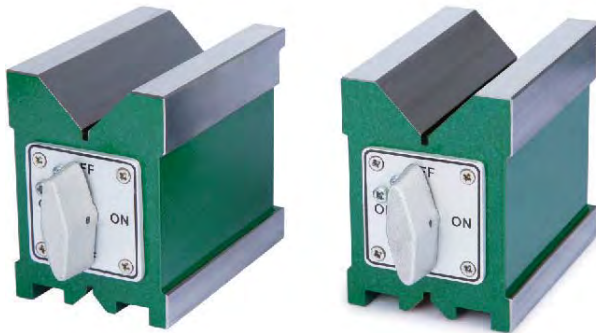
STRONG
MAGNETIC FORCE

HIGH
PRECISION

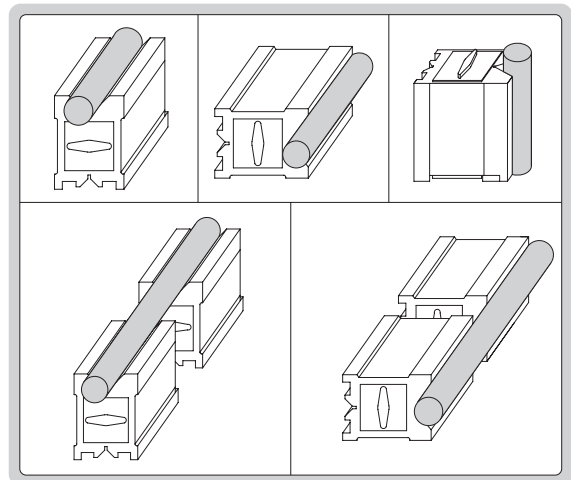
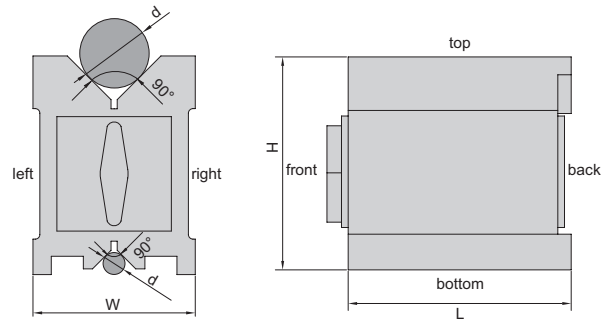
HARDENED
SURFACES



6889-11



6889-1



- Hardened, high accuracy, strong magnetic force, for grinding, light milling, drilling and inspection of round and square jobs
- All working surfaces are hardened to HRC60±2
- Magnetic force on top, bottom and two V grooves
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Suitable for cast iron surface plates and granite surface plates

Individual

Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V groove to top, bottom, left, right sides	Squareness of V groove to back side
6889-11	3.0x2.2x3.0"	.20-1.57"DIA	165lbf	197µin	197µin
6889-22	3.9x2.8x3.7"	.20-2.56"DIA	220lbf	197µin	197µin
6889-33	5.9x3.0x3.9"	.20-2.76"DIA	275lbf	197µin	197µin
6889-44	7.9x4.9x5.9"	.39-5.51"DIA	385lbf	394µin	394µin

Matched pair

Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of both V grooves to top, bottom, left, right sides	Squareness of both V grooves to back side	Height difference of a matched pair
6889-1	3.0x2.2x3.0"	.20-1.57"DIA	165lbf	197µin	197µin	197µin
6889-2	3.9x2.8x3.7"	.20-2.56"DIA	220lbf	197µin	197µin	197µin
6889-3	5.9x3.0x3.9"	.20-2.76"DIA	275lbf	197µin	197µin	197µin
6889-4	7.9x4.9x5.9"	.39-5.51"DIA	385lbf	394µin	394µin	394µin

MAGNETIC V-BLOCK

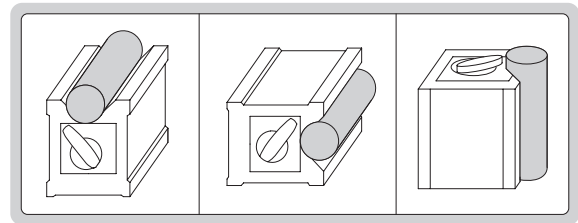
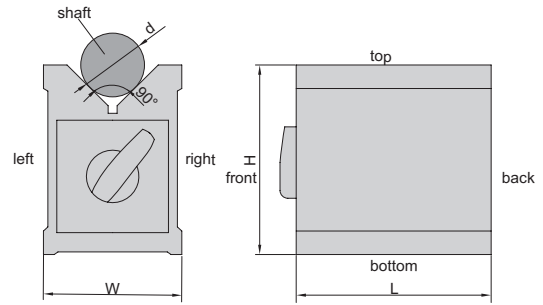
ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACE

ATTENTION: NOT HARDENED



6890-702

- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surface



Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V groove to top, bottom, left and right sides	Squareness of V groove to back side
6890-702	2.8x2.4x2.9"	.24 - 1.73" DIA	123lbf	394µin	394µin

MAGNETIC V-BLOCK

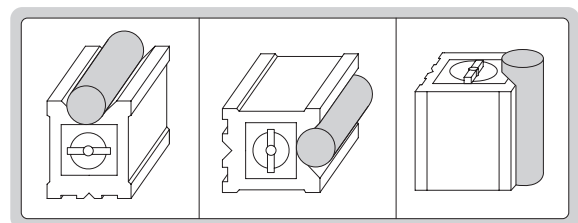
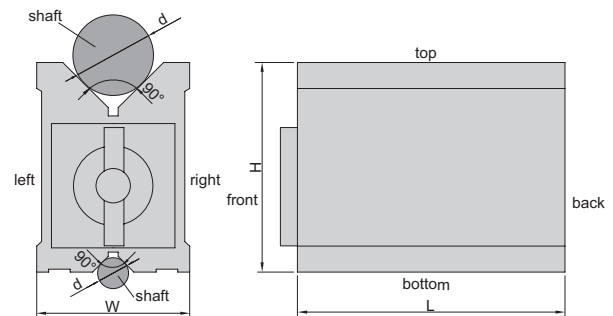
ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACE

ATTENTION: NOT HARDENED



6801-1201

- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Not suitable for steel or iron surface



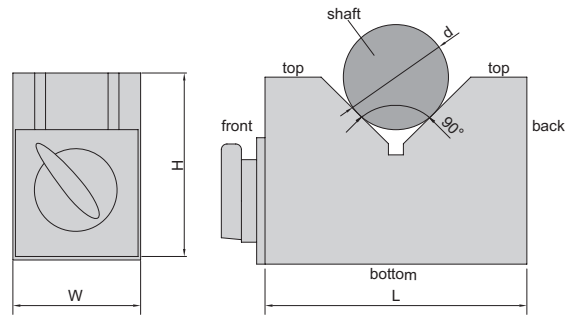
Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of both V grooves to top, bottom, left, right side	Squareness of both V grooves to back side
6801-1201	3.1x2.8x3.7"	.24 - 2.64" DIA	141lbf	394µin	394µin
6801-1202	3.9x2.8x3.7"	.24 - 2.64" DIA	176lbf	394µin	394µin
6801-1203	4.7x2.8x3.7"	.24 - 2.64" DIA	211lbf	394µin	394µin

ATTENTION: LOW
MAGNETIC FORCE

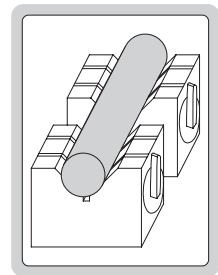
MAGNETIC V-BLOCK SET



6891-1



- Hold cylindrical workpieces for inspection, not suitable for machining due to low magnetic force
- Two V-blocks per set

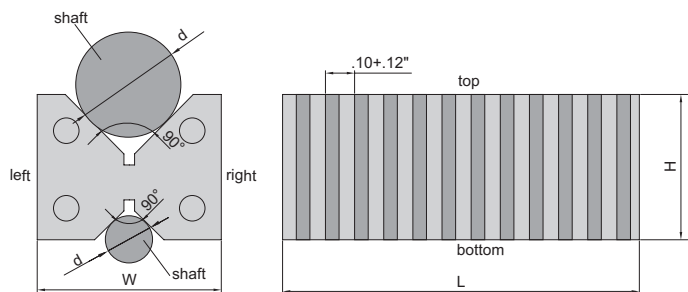


Part No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V groove to bottom and back sides	Height difference of a matched pair
6891-1	2.8x1.6x2.0"	.24 - 1.81" DIA	18lbf	394µin	394µin
6891-3	5.9x2.0x3.9"	.24 - 4.92" DIA	31lbf	394µin	394µin

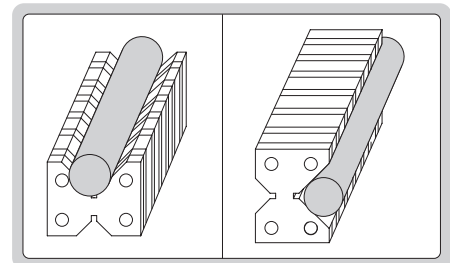
MAGNETIC INDUCTION V-BLOCK



6892-1



- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Supplied in single piece
- V groove on the top for large shafts
- V groove on the bottom for small shafts

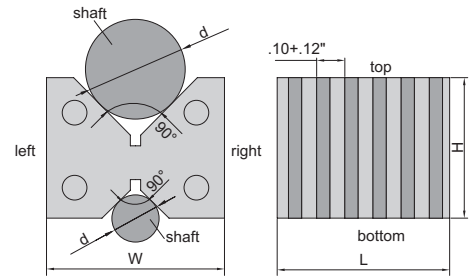


Part No.	Size (LxWxH)	Range of shafts (d)	Pole pitch	Parallelism of both V grooves to top, bottom, left, right sides
6892-1	4.3x2.4x1.9"	.24 - 1.97" DIA	.10+.12"	394µin

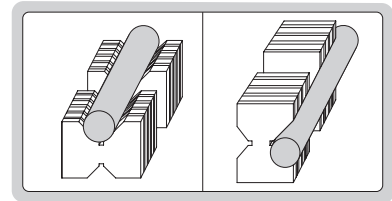
MAGNETIC INDUCTION V-BLOCK SET



6899-1



- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Two V-blocks per set
- V groove on the top for large shafts
- V groove on the bottom for small shafts



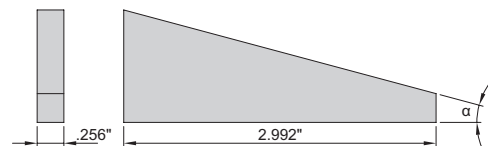
Part No.	Size (LxWxH)	Range of shafts (d)	Pole pitch	Parallelism of both V grooves to top, bottom, left and right sides	Height difference of a matched pair
6899-1	2.0x2.4x1.9"	.24 - 1.97" DIA	.10+.12"	394µin	394µin

ANGLE PLATE SET



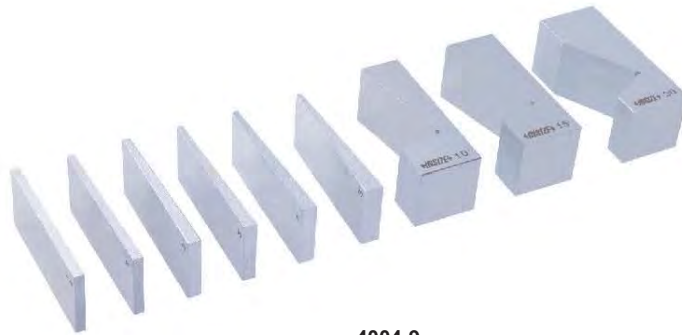
4003-12

- For angle set-up in tooling, production and inspection
- Hardness HRC55



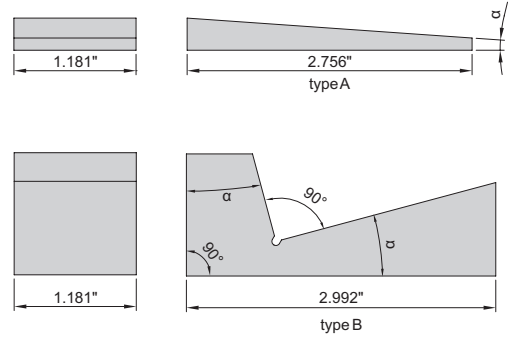
Part No.	Quantity (pcs)	Angle α	Accuracy
4003-10	10	1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°	±9"
4003-12	12	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°	±9"

UNIVERSAL ANGLE PLATE SET



4004-9

- For angle set-up in tooling, production and inspection
- Hardness HRC55



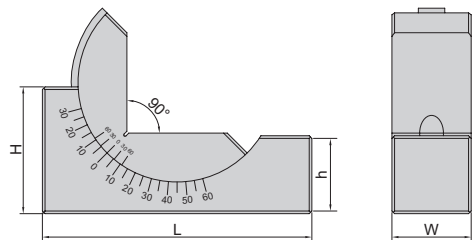
Part No.	Quantity (pcs)	Angle α	Type	Accuracy
4004-9	9	$\frac{1}{2}^\circ, 1^\circ, 2^\circ, 3^\circ, 4^\circ, 5^\circ$	type A	$\pm 9''$
		$10^\circ, 15^\circ, 30^\circ$	type B	

ADJUSTABLE ANGLE BLOCK



6535-30

- Made of hardened tool steel
- With locking screw



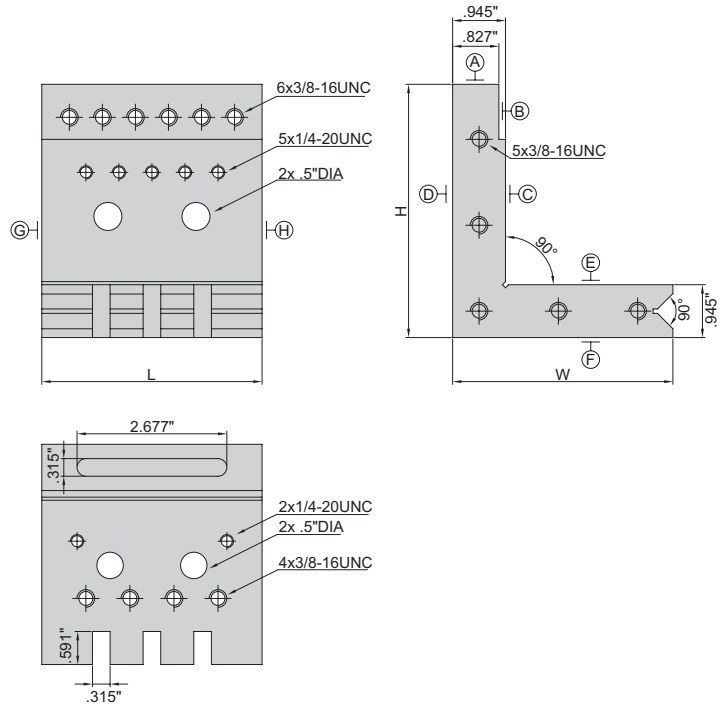
Part No.	Size (LxWxH)	h	Adjustable angle	Graduation of angle	Accuracy of angle
6535-25	3.0x1.0x1.4"	.98"	$30^\circ \sim 0^\circ \sim 60^\circ$	10'	10'
6535-30	4.0x1.2x1.9"	1.18"	$30^\circ \sim 0^\circ \sim 60^\circ$	10'	10'

RIGHT ANGLE PLATE



V groove

6547-E1



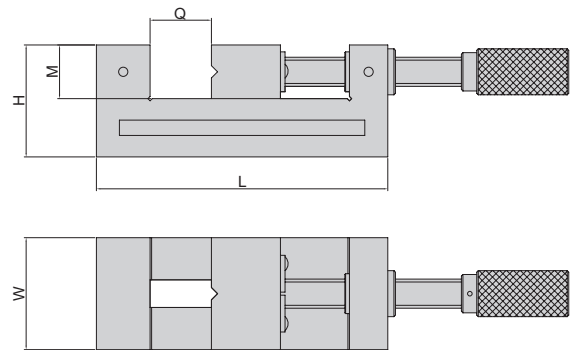
Part No.	Size (LxWxH)
6547-E1	3.9x3.9x4.5"

- Hardened to HRC60±2
- V groove for cylinders
- Parallelism and squareness between A, B, C, D, E, F, G and H: 197µin
- Parallelism and squareness of V groove to A, B, C, D, E, F, G and H: 197µin

PRECISION VISE



6525-76



Part No.	Jaw opening (Q)	Jaw width (W)	L	H	M
6525-73	0-2.9"	2.480"	6.929"	2.480"	1.181"
6525-76	0-3.0"	2.874"	7.480"	2.874"	1.378"
6525-120	0-4.7"	3.858"	10.039"	3.228"	1.575"

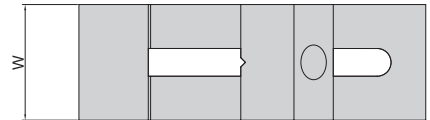
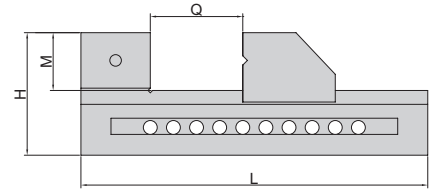
- Parallelism: 40µin/per inch
- Squareness: 60µin/per inch
- Made of SK2 tool steel
- Hardness HRC52-58

PRECISION VISE



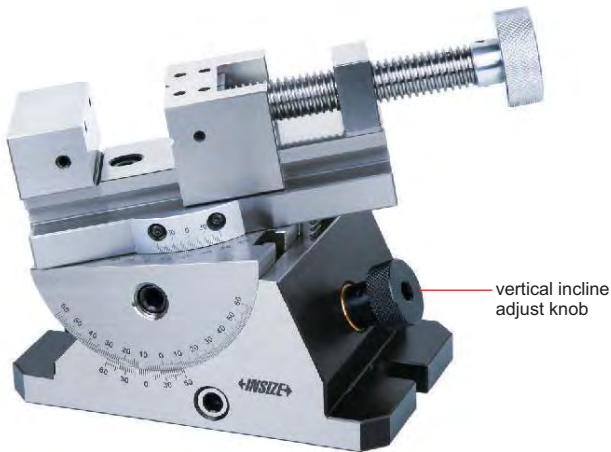
6526-80

- Parallelism: 30µin/per inch
- Squareness: 50µin/per inch
- Made of SK2 tool steel
- Hardness HRC55-60



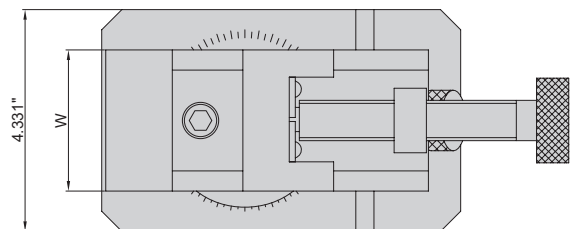
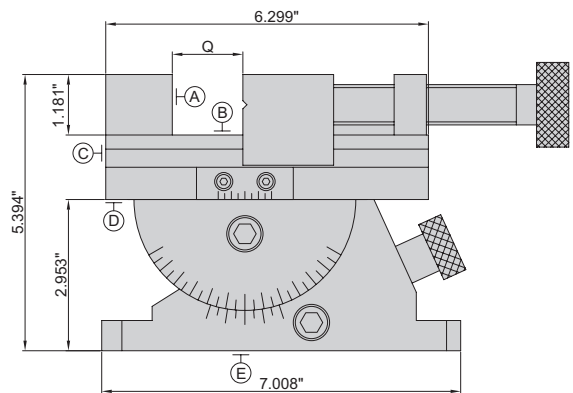
Part No.	Jaw opening (Q)	Jaw width (W)	Overall length (L)	H	M
6526-80	0-3.1"	1.969"	5.906"	2.087"	.984"
6526-100	0-3.9"	2.874"	7.480"	2.756"	1.378"

PRECISION UNIVERSAL VISE



6521-80

- Horizontal rotary: range 360°, graduation 0.05°
- Vertical incline: range 45°, graduation 0.05°
- With vertical incline adjust knob
- Parallelism and squareness between A, B, C and D: 50µin/per inch, parallelism between D and E at 0°: 100µin/per inch
- Made of tool steel
- Hardness HRC56-58



Part No.	Jaw opening (Q)	Jaw width (W)
6521-80	0-3.1"	2.756"

3D TESTER

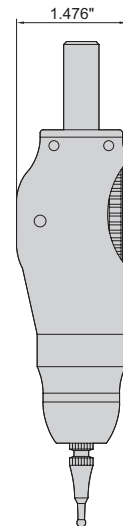
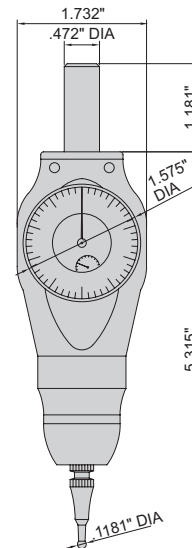


COMPACT DESIGN

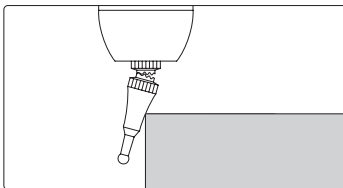
ANTI MAGNETIC CARBIDE CONTACT POINT



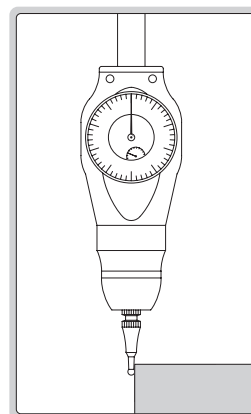
2842-3D



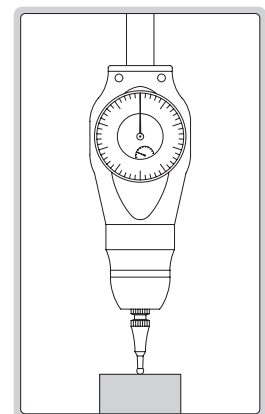
If probe tip is pressed too much, the probe breaks at the breaking point, in order to prevent damage of main body



radial setting



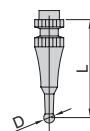
axial setting



Part No.	Range	Graduation
2842-3D	1.5mm/.059"	0.01mm

Optional accessory

Part No.	Name	L	D
2842-N1	standard probe	1.063"	.1181" DIA
2842-N2	long probe	2.441"	.2362" DIA



2842-N1

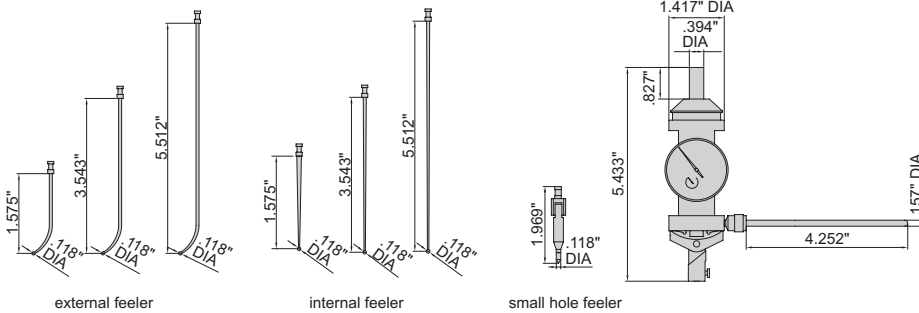


2842-N2

CENTERING INDICATOR



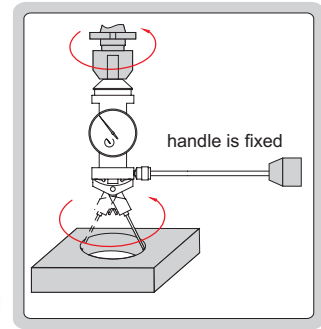
2385-3



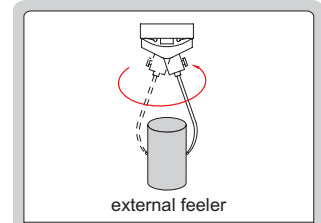
external feeler

internal feeler

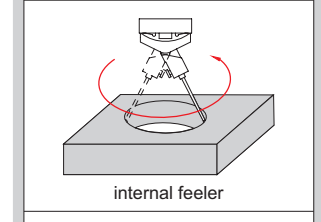
small hole feeler



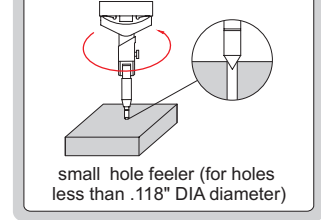
handle is fixed



external feeler



internal feeler

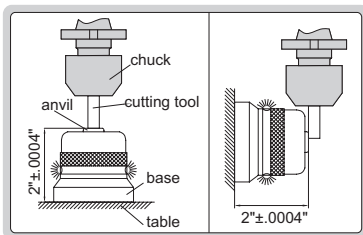


small hole feeler (for holes less than .118" DIA diameter)

Part No.

2385-3

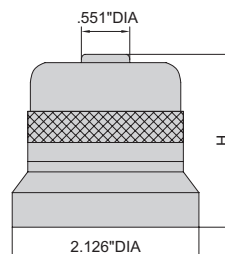
- Provides quick and accurate centering in boring and milling set-up



ATTENTION:
HIGH TEST FORCE

ELECTRONIC ZERO SETTER

- The base is electrically conducted to the cutting tools through the table and chuck, the LED lights up when the cutting tool touches the anvil
- Magnetic base
- Battery LR44 or SR44



6550-2A

Part No.	Height (H)	Accuracy	Test Force
6550-2A	2"	±.0004"	6.075lbf(at 2")

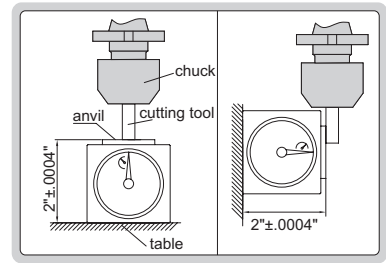
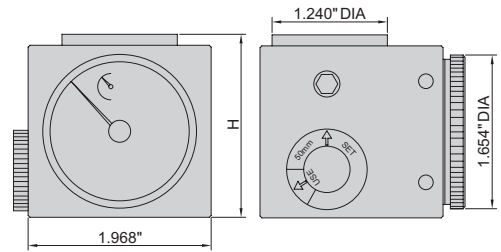
ZERO SETTER



2397-25A

- Magnetic base

Part No.	Height (H)	Accuracy	Test Force
2397-25A	2"	$\pm .0004$ "	2.025lbf (at 2")



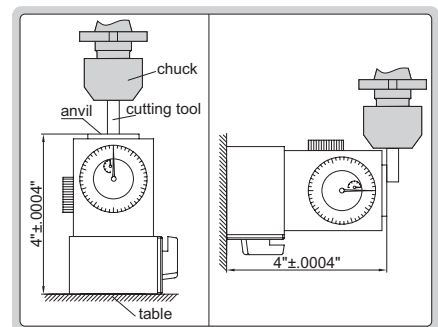
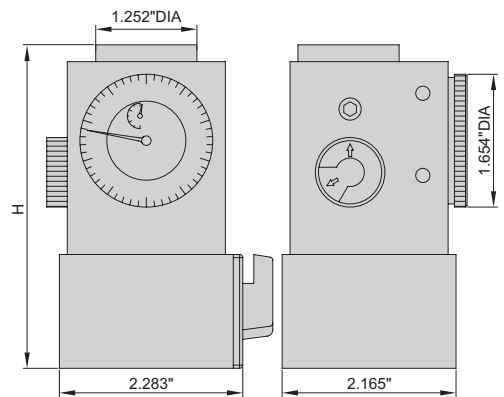
ZERO SETTER



2394-45A

- Magnetic base with on-off switch

Part No.	Height (H)	Accuracy	Test Force
2394-45A	4"	$\pm .0004$ "	2.025lbf (at 4")



2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
- 2) Electronic outside micrometer, range 0-1"/0-25mm, resolution .00005"/0.001mm (part no. **3109-25B**)



5022

Part No.

5022

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial test indicator, range .03", graduation .0005" (part no. **2380-35**)
- 2) Magnetic stand



5023-E

Part No.

5023-E

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial indicator, range 1",
graduation .001" (part no. 2307-1)
- 2) Magnetic stand (part no. 6201-60)

Part No.

5002-4E



5002-4E

3-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial caliper, range 0-6", graduation .001" (part no. 1311-6)
- 2) Outside micrometer, range 0-1",
graduation .0001" (part no. 3202-1)
- 3) Steel rule, 6"/150mm (part no. 7110-150)

Part No.

5003-1



5003-1

3-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
- 2) Outside micrometer, range 0-1", graduation .0001" (part no. **3202-1**)
- 3) Steel rule, 6"/150mm (part no. **7110-150**)



Part No.

5003-1E

5003-1E

3-PIECE MEASURING TOOL SET



■ Includes:

- 1) Electronic indicator, range .5"/12.7mm, resolution .0005"/0.01mm (part no. **2112-10E**)
- 2) Flex arm
- 3) Locking pliers, adjustable jaw opening from 0 to 1"



Part No.

5031-E

5031-E

4-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
- 2) Outside micrometer, range 0-1", graduation .0001", (part no. **3202-1**)
- 3) 90° beveled edge square, 3.937x2.756", grade 0 (part no. **4790-1000**)
- 4) Steel rule, 6"/150mm (part no. **7110-150**)



Part No.

5042-E

5042-E

5-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm, (part no. **1108-150**)
- 2) Outside micrometer, range 0-1", graduation .0001" (part no. **3203-1A**)
- 3) Dial indicator, range 1", graduation .001" (part no. **2307-1**)
- 4) Magnetic stand (part no. **6201-60**)
- 5) Micrometer stand (part no. **6300**)



Part No.

5051-E

5051-E

5-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
- 2) Electronic outside micrometer, range 0-1"/0-25mm, resolution .00005"/0.001mm (part no. **3109-25B**)
- 3) Electronic indicator, range .5"/12.7mm, resolution .0005"/0.01mm (part no. **2112-10E**)
- 4) Magnetic stand (part no. **6201-60**)
- 5) Micrometer stand (part no. **6300**)

Part No.

5052-E



5052-E

6-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
- 2) Outside micrometer, range 0-1", graduation .0001" (part no. **3202-1**)
- 3) 90° beveled edge square, 3.937x2.756", grade 00 (part no. **4790-0100**)
- 4) Straight edge, 3.937" (part no. **4700-100**)
- 5) Spring divider, 6"/150mm (part no. **7260-150**)
- 6) Steel rule, 8"/200mm (part no. **7110-200**)

Part No.

5062-E



5062-E

9-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. **1108-150**)
- 2) Outside micrometer, range 0-1", graduation .0001" (part no. **3202-1**)
- 3) Protractor, range 0-180°, graduation 1° (part no. **4799-180**)
- 4) Pitch gauge, range 4-42TPI, 30pcs, unified 60° thread (part no. **4820-230**)
- 5) Radius gauge, range 1/32"-1/4" (part no. **4801-15E**)
- 6) Feeler gauge, range .0015"-.035", 31pcs (part no. **4608-31**)
- 7) 90° beveled edge square, 3.937x2.756", grade 0 (part no. **4790-1000**)
- 8) Scriber (part no. **7230**)
- 9) Steel rule, 6"/150mm (part no. **7110-150**)

Part No.

5091-E



5091-E

13-PIECE MEASURING TOOL SET

■ Includes:

- 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm, (part no. **1108-150**)
- 2) Outside micrometer, range 0-1", graduation .0001" (part no. **3202-1**)
- 3) Dial indicator, range 1", graduation .001" (part no. **2307-1**)
- 4) Magnetic stand (part no. **6201-60**)
- 5) Protractor, range 0-180°, graduation 1° (part no. **4799-180**)
- 6) Pitch gauge, range 4-42TPI, 30pcs, unified 60° thread (part no. **4820-230**)
- 7) Radius gauge, range 1/32"-1/4" (part no. **4801-15E**)
- 8) Feeler gauge, range .0015"-.035", 31pcs (part no. **4608-31**)
- 9) 90° beveled edge square, 3.937x2.756", grade 0 (part no. **4790-1000**)
- 10) Scriber (part no. **7230**)
- 11) Steel rule, 6"/150mm (part no. **7110-150**)
- 12) Depth base attachment (part no. **6140**)
- 13) Zero setting bar

Part No.

5013-E



5013-E

DATA
OUTPUT

ELECTRONIC HORIZONTAL SCALE

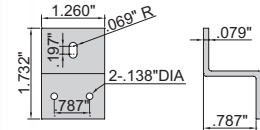


7101-300A

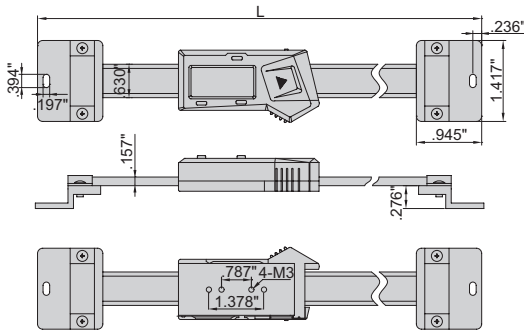


7101-400A

bracket

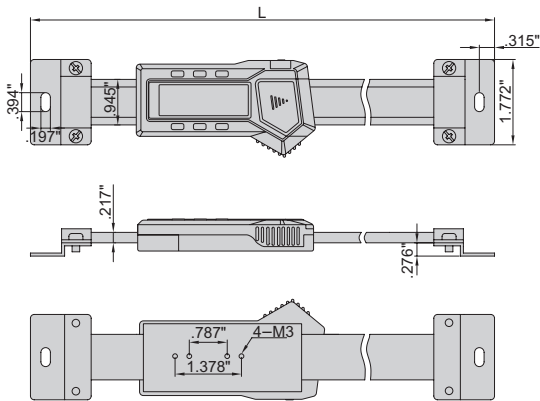


type A



- Resolution: .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- USB data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output system (part no. **7306-20, 7302-SPC1A/SPC1B,7305-SPC2**)

type B



- Resolution: .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Absolute and incremental measurement
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output system (part no. **7306-20, 7302-SPC1A/SPC1B,7305-SPC2**)

Part No.	Range	Type	Accuracy	L
7101-100A	4"/100mm	A	±.0008"	8.465"
7101-150A	6"/150mm	A	±.0012"	10.433"
7101-200A	8"/200mm	A	±.0012"	12.402"
7101-300A	12"/300mm	A	±.0016"	17.520"
7101-400A	16"/400mm	B	±.0020"	23.228"

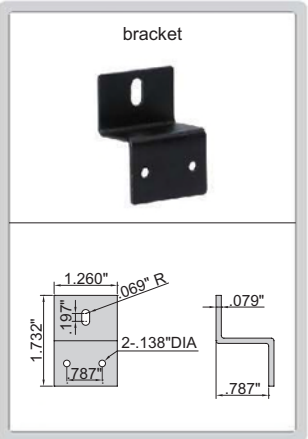
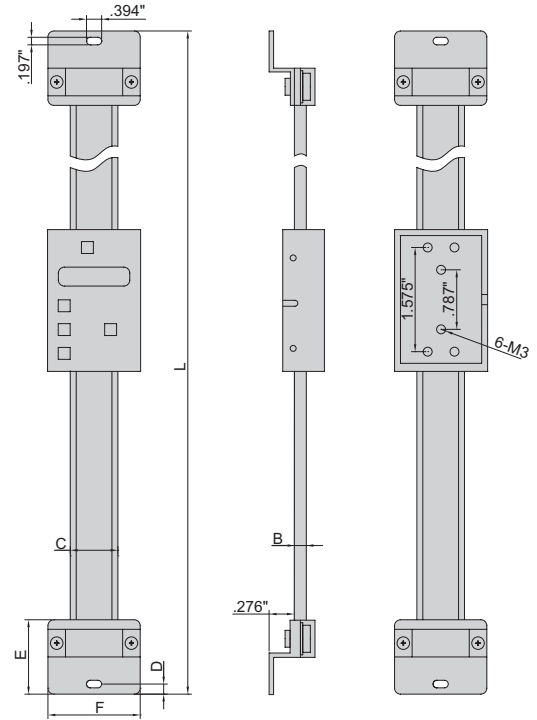
Part No.	Range	Type	Accuracy	L
7101-500A	20"/500mm	B	±.0020"	27.165"
7101-600A	24"/600mm	B	±.0031"	31.102"
7101-800A	32"/800mm	B	±.0039"	38.976"
7101-1000A	40"/1000mm	B	±.0039"	46.850"

ELECTRONIC VERTICAL SCALE

**ATTENTION:
NO DATA OUTPUT**



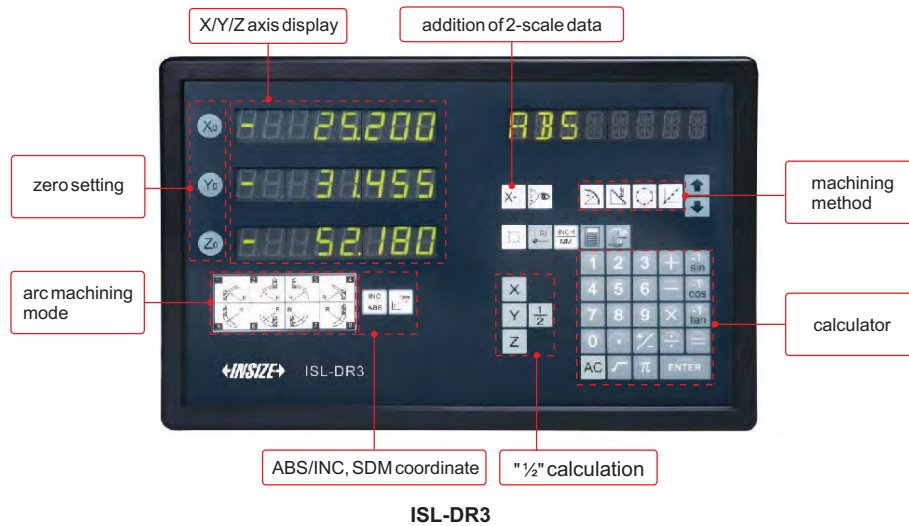
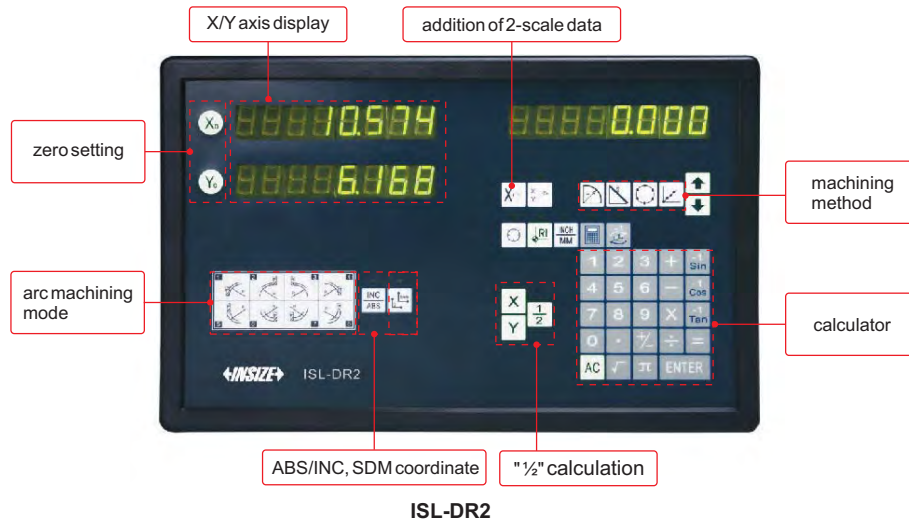
7102-300



- Resolution: .0005"/0.01mm
- Buttons: on/off, zero set, inch/mm, data set
- Battery SR44 or LR44
- Made of stainless steel
- Supplied with bracket to be mounted on the back

Part No.	Range	Accuracy	B	C	D	E	F	L
7102-100	4"/100mm	±.0008"	.157"	.787"	.236"	.945"	1.575"	9.646"
7102-150	6"/150mm	±.0012"	.157"	.787"	.236"	.945"	1.575"	11.654"
7102-200	8"/200mm	±.0012"	.157"	.787"	.236"	.945"	1.575"	13.583"
7102-300	12"/300mm	±.0016"	.157"	.787"	.236"	.945"	1.575"	17.520"
7102-400	16"/400mm	±.0020"	.157"	.787"	.236"	.945"	1.575"	21.457"
7102-500	20"/500mm	±.0020"	.217"	.945"	.315"	1.260"	1.772"	26.969"
7102-600	24"/600mm	±.0031"	.217"	.945"	.315"	1.260"	1.772"	30.906"
7102-800	32"/800mm	±.0039"	.217"	.945"	.315"	1.260"	1.772"	38.780"
7102-1000	40"/1000mm	±.0039"	.217"	.945"	.315"	1.260"	1.772"	46.654"

COUNTER



SPECIFICATION

Part No.	ISL-DR2	ISL-DR3
Application	two-axis	three-axis
Scale input ports	2	3
Resolution	.000002", .000005", .00001", .00002", .00005", .0001", .0002", .0005", .001", .002"	
Functions	addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining	
Power Supply	110/220V, 50/60Hz	
Dimension	11.61×7.28×1.77"	
Weight	3.20lb	

STANDARD DELIVERY

Main unit	1pc
Mounting bracket	1pc
Ground cable	1pc

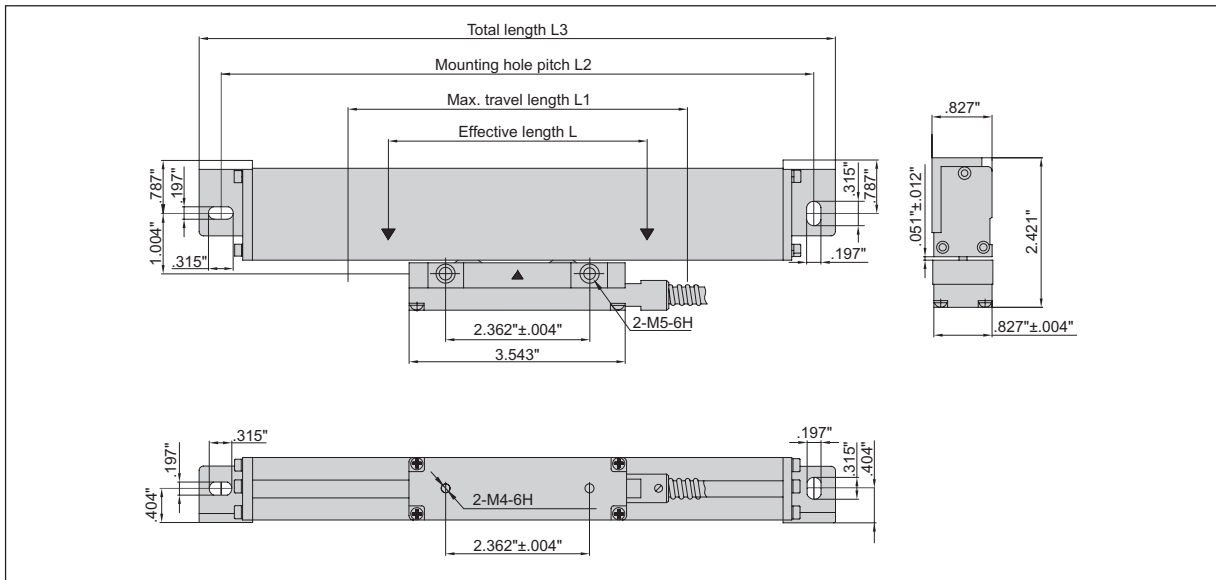
RS232C cable	1pc
Software CD for RS232C	1pc

LINEAR SCALE

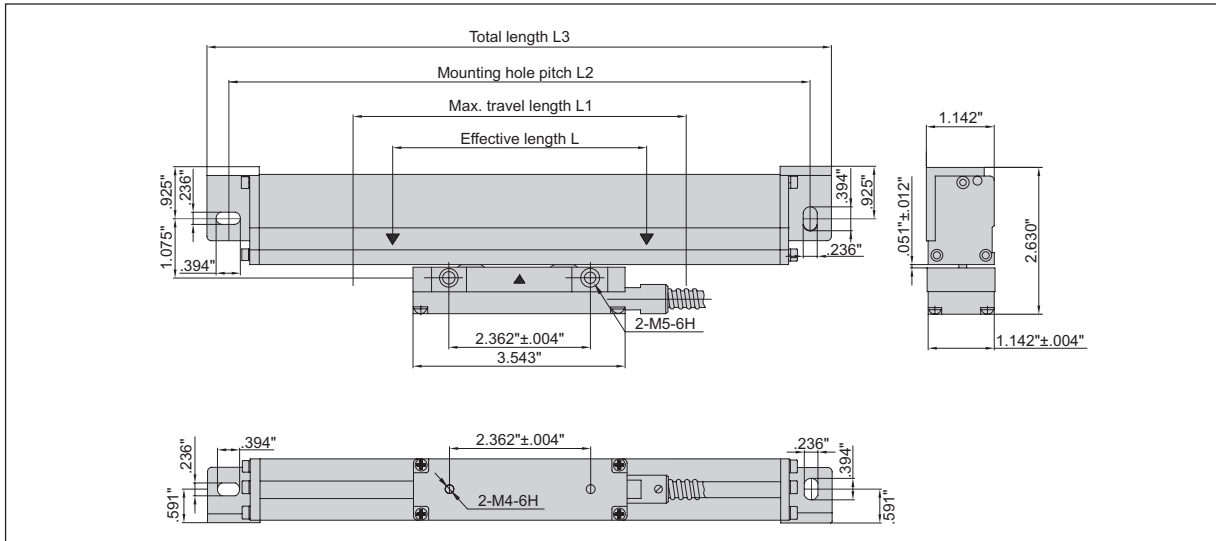


ISL-A1-300

Series ISL-A1 and ISL-A5



Series ISL-B5



To be continued

Continued from previous page

Effective length(L)	Part No.		
	Series ISL-A1	Series ISL-A5	Series ISL-B5
2"/50mm	ISL-A1-50	ISL-A5-50	ISL-B5-50
4"/100mm	ISL-A1-100	ISL-A5-100	ISL-B5-100
6"/150mm	ISL-A1-150	ISL-A5-150	ISL-B5-150
8"/200mm	ISL-A1-200	ISL-A5-200	ISL-B5-200
10"/250mm	ISL-A1-250	ISL-A5-250	ISL-B5-250
12"/300mm	ISL-A1-300	ISL-A5-300	ISL-B5-300
14"/350mm	ISL-A1-350	ISL-A5-350	ISL-B5-350
16"/400mm	ISL-A1-400	ISL-A5-400	ISL-B5-400
18"/450mm	ISL-A1-450	ISL-A5-450	ISL-B5-450
20"/500mm	ISL-A1-500	ISL-A5-500	ISL-B5-500
22"/550mm	ISL-A1-550	ISL-A5-550	ISL-B5-550
24"/600mm	ISL-A1-600	ISL-A5-600	ISL-B5-600
26"/650mm	ISL-A1-650	ISL-A5-650	ISL-B5-650
28"/700mm	ISL-A1-700	ISL-A5-700	ISL-B5-700
30"/750mm	ISL-A1-750	ISL-A5-750	ISL-B5-750
32"/800mm	ISL-A1-800	ISL-A5-800	ISL-B5-800
34"/850mm	ISL-A1-850	ISL-A5-850	ISL-B5-850
36"/900mm	ISL-A1-900	ISL-A5-900	ISL-B5-900
38"/950mm	ISL-A1-950	ISL-A5-950	ISL-B5-950
40"/1000mm	ISL-A1-1000	ISL-A5-1000	ISL-B5-1000
44"/1100mm			ISL-B5-1100
48"/1200mm			ISL-B5-1200
52"/1300mm			ISL-B5-1300
56"/1400mm			ISL-B5-1400
60"/1500mm			ISL-B5-1500
64"/1600mm			ISL-B5-1600
68"/1700mm			ISL-B5-1700
72"/1800mm			ISL-B5-1800
76"/1900mm			ISL-B5-1900
80"/2000mm			ISL-B5-2000

SPECIFICATION

	Series ISL-A1		Series ISL-A5		Series ISL-B5	
	L1(inch)	L+1.18"(L<38")	L+1.97"(L≥38")	L+1.18"(L<38")	L+1.97"(L≥38")	L+1.18"(L<38")
L2(inch)	L+5.20"(L<38")	L+5.98"(L≥38")	L+5.20"(L<38")	L+5.98"(L≥38")	L+5.35"(L<38")	L+6.14"(L≥38")
L3(inch)	L+5.87"(L<38")	L+6.65"(L≥38")	L+5.87"(L<38")	L+6.65"(L≥38")	L+6.06"(L<38")	L+6.85"(L≥38")
Resolution	.00005"		.0002"		.0002"	
Max. response speed	164ft/min		295ft/min		196ft/min	
Scale grating pitch	787μin					
Scale reference point pitch	1.97"					
Accuracy	±(197+5L)μin L is the effective length in inch					
Cable length	140" (L: 2-38") 200" (L: 40-60") 400" (L: 64-80")					

STANDARD DELIVERY

Main unit	1pc
'L' shape support	1pc
Anti-dust cover	1pc
Plain base	1pc (for L ≥ 60")

PROFILE PROJECTOR

Screen diameter: 12"

X-Y travel: 6x2"



ISP-Z3015



ISP-A1000E

digital readout of ISP-A1000E

- touch buttons
- USB data output to Excel and CAD
- show diagram directly




OPTIONAL ACCESSORY



lens



rotary table
(glass plate diameter 3.94")



overlay chart (protractor with 1°
graduation, radius with 1mm/.039" increment)



holder with clamp



swivel center support



V-block with clamp



50mm/1.97" reading scale
(check magnification accuracy)



300mm/11.81" calibration scale
(check magnification accuracy
together with 50mm/1.97" reading
scale or calibrate measuring accuracy)



blue filter



demo sample


















printer (only for ISP-A1000E)

To be continued

Continued from previous page

SPECIFICATION

Part No.		ISP-Z3015*		ISP-A1000E*		
Edge detector		not included		included		
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)	
	view field	1.18" DIA	.59" DIA	.24" DIA	.12" DIA	
	working distance	3.06"	1.74"	1.51"	1.00"	
Max. workpiece height		3.54"	3.54"	3.54"	3.54"	
Magnification accuracy		±0.08%				
Image		erect image				
Projector screen		diameter: 12" DIA				
		rotation range: 0°~360°, resolution: 1" or 0.01°				
		reference lines: cross-hairs				
Stage	metal stage size	13.39×5.98"				
	glass stage size	7.72×3.78"				
	X-Y stage travel	range: 6×2"				
		resolution: .00002"				
	Z (focus) travel range	accuracy: (157.5+40L)µin L is the measuring length in inch				
max. load capacity	3.54"					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 24V/150W halogen lamp				
Data processing unit	display	X-Y stage travel, screen rotation				
	output	RS232C		RS232C, USB (data output to Excel and CAD)		
	function		measure coordinate of point		 measure coordinate of point	
			measure coordinate of line		 measure coordinate of line	
		measure center coordinate, radius of circle with three points		 measure center coordinate, radius of circle with three points		
		measure distance between two objects		 measure distance between two objects		
		measure angle with four points or two lines		 measure angle with four points or two lines		
		set origin of coordinate		 coordinate transform		
		coordinate transform		 choose measurement object automatically according to the selective point and display the result		
		set midpoint of coordinate				
advanced function	—		Programming for batch measurements			
Power supply		110/220V, 50/60Hz				
Dimension (L×W×H)		21.65×30.31×43.31"				
Weight		297lb				

STANDARD DELIVERY

Main unit	1pc
10X lens with half-reflection mirror and oblique illuminator mirror	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc
USB cable and software (only for ISP-A1000E)	1pc

OPTIONAL ACCESSORY

20X lens with half-reflection mirror and oblique illuminator mirror	ISP-Z3015-LENS20X	Swivel center support	ISP-Z3015-SUPPORT
50X lens with half-reflection mirror	ISP-Z3015-LENS50X	V-block with clamp	ISP-Z3015-VBLOCK
100X lens with half-reflection mirror	ISP-Z3015-LENS100X	50mm/1.97" reading scale	ISP-Z3015-SCALE50
Rotary table	ISP-Z3015-TABLE	300mm/11.81" calibration scale	ISP-Z3015-RULE
Overlay chart	ISP-Z3015-CHART	Blue filter	ISP-Z3015-FILTER
Holder with clamp	ISP-Z3015-HOLDER	Demo sample	ISP-Z3015-DEMO
		Printer (only for ISP-A1000E)	ISP-A1000-PRINTER

* Supplied with manufacturer inspection certificate

PROFILE PROJECTOR

Screen diameter: 12"

X-Y travel: 8x4"



ISP-AZ3020



ISP-A5000E

digital readout of ISP-A5000E

- Adjust the focus by ascending and descending the projector head, the stage doesn't move up and down
- Maximum workpiece weight 110lb

- touch buttons
- USB data output to Excel and CAD
- show diagram directly

OPTIONAL ACCESSORY



lens



overlay chart (protractor with 1° graduation, radius with 1mm/.039" increment)



50mm/1.97" reading scale (check magnification accuracy)



300mm/11.81" calibration scale (check magnification accuracy together with 50mm/1.97" reading scale or calibrate measuring accuracy)



demo sample


















printer (only for ISP-A5000E)

To be continued

Continued from previous page

SPECIFICATION

Part No.		ISP-AZ3020*		ISP-A5000E*		
Edge detector		not included		included		
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)	
	view field	1.18" DIA	.59" DIA	.24" DIA	.12" DIA	
	working distance	3.06"	1.74"	1.51"	1.00"	
Max. workpiece height		3.94"	3.94"	3.94"	3.94"	
Magnification accuracy		±0.08%				
Image		erect image				
Projector screen		diameter: 12" DIA				
		rotation range: 0°~360°, resolution: 1' or 0.01°				
		reference lines: cross-hairs				
Stage	metal stage size	15.91×8.98"				
	glass stage size	10.24×6.30"				
	X-Y stage travel	range: 8×4"				
		resolution: .00002"				
	Z(focus) travel range	accuracy: (118.1+40L/3)µin L is the measuring length in inch				
max. load capacity	110lb					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 24V/150W halogen lamp, brightness is adjustable				
Data processing unit	display	X-Y stage travel, screen rotation				
	output	RS232C		RS232C, USB (data output to Excel and CAD)		
	function		measure coordinate of point			measure coordinate of point
			measure coordinate of line			measure coordinate of line
			measure center coordinate, radius of circle with three points			measure center coordinate, radius of circle with three points
			measure distance between two objects			measure distance between two objects
			measure angle with four points or two lines			measure angle with four points or two lines
		set origin of coordinate			coordinate transform	
		coordinate transform			choose measurement object automatically according to the selective point and display the result	
	set midpoint of coordinate					
advanced function		—		Programming for batch measurements		
Power supply		110/220V, 50/60Hz				
Dimension (L×W×H)		30.71×30.71×43.31"				
Weight		352lb				

STANDARD DELIVERY

Main unit	1pc
10X lens with half-reflection mirror and oblique illuminator mirror	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc
USB cable and software (only for ISP-A5000E)	1pc

OPTIONAL ACCESSORY

20X lens with half-reflection mirror and oblique illuminator mirror	ISP-A5000-LENS20X
50X lens with half-reflection mirror	ISP-A5000-LENS50X
100X lens with half-reflection mirror	ISP-A5000-LENS100X
Overlay chart	ISP-A5000-CHART

50mm/1.97" reading scale	ISP-A5000-SCALE50
300mm/11.81" calibration scale	ISP-A5000-RULE
Demo sample	ISP-A5000-DEMO
Printer (only for ISP-A5000E)	ISP-A5000-PRINTER

* Supplied with manufacturer inspection certificate

HORIZONTAL PROFILE PROJECTOR

Screen diameter: 12"

X-Z travel: 8x4"



ISP-W3020



ISP-A3000E

OPTIONAL ACCESSORY



lens



overlay chart (protractor with 1° graduation, radius with 1mm/.039" increment)



50mm/1.97" reading scale (check magnification accuracy)



demo sample



V-block with clamp



rotary table



300mm/11.81" calibration scale (check magnification accuracy together with 50mm/1.97" reading scale or calibrate measuring accuracy)



vise



printer (only for ISP-A3000E)

digital readout of ISP-A3000E
















- touch buttons
- USB data output to Excel and CAD
- show diagram directly



To be continued

Continued from previous page

SPECIFICATION

Part No.		ISP-W3020*		ISP-A3000E*		
Edge detector		not included		included		
Lens	magnification	10X (included)	20X (optional)	50X (optional)	100X (optional)	
	view field	1.18" DIA	.59" DIA	.24" DIA	.12" DIA	
	working distance	3.06"	1.74"	1.51"	1.00"	
Magnification accuracy		±0.08%				
Projector screen		diameter: 12" DIA				
		rotation range: 0°~360°, resolution: 1' or 0.01°				
		reference lines: cross-hairs				
Stage	metal stage size	15.75×5.91"				
	turning range	±15°				
	X-Z stage travel	range: 8×4"				
		resolution: .00002"				
	Y (focus) travel range	accuracy: (157.5+40L)µin L is the measuring length in inch				
max. load capacity	110lb					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 12V/150W halogen lamp(with 2 fibers), position is adjustable				
Data processing unit	display	X-Z stage travel, screen rotation				
	output	RS232C		RS232C, USB (data output to Excel and CAD)		
	function		measure coordinate of point		 measure coordinate of point	
			measure coordinate of line		 measure coordinate of line	
			measure center coordinate, radius of circle with three points		 measure center coordinate, radius of circle with three points	
			measure distance between two objects		 measure distance between two objects	
		measure angle with four points or two lines		 measure angle with four points or two lines		
		set origin of coordinate		 coordinate transform		
		coordinate transform		 choose measurement object automatically according to the selective point and display the result		
		set midpoint of coordinate				
advanced function		—		Programming for batch measurements		
Powersupply		110/220V, 50/60Hz				
Dimension (L×W×H)		42.91×32.68×39.76"				
Weight		352lb				

STANDARD DELIVERY

Main unit	1pc
10X lens	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc
USB cable and software (only for ISP-A3000E)	1pc

OPTIONAL ACCESSORY

20X lens	ISP-A3000-LENS20X
50X lens	ISP-A3000-LENS50X
100X lens	ISP-A3000-LENS100X
Overlay chart	ISP-A3000-CHART
50mm/1.97" reading scale	ISP-A3000-SCALE50
300mm/11.81" calibration scale	ISP-A3000-RULE

Demo sample	ISP-A3000-DEMO
V-block with clamp	ISP-A1000-VBLOCK
Rotary table	ISP-A3000-RTABLE
Vice	ISP-A3000-VISE
Printer (only for ISP-A3000E)	ISP-A3000-PRINTER

* Supplied with manufacturer inspection certificate

HORIZONTAL PROFILE PROJECTOR

Screen diameter: 16"

X-Z travel: 10x6"



ISP-W4025



ISP-A7000E

digital readout of ISP-A7000E

- touch buttons
- USB data output to Excel and CAD
- show diagram directly




OPTIONAL ACCESSORY



lens



50mm/1.97" reading scale
(check magnification accuracy)



300mm/11.81" calibration scale
(check magnification accuracy together with 50mm/1.97" reading scale or calibrate measuring accuracy)



11.81" DIA overlay chart (protractor with 1° graduation, radius with 1mm/.039" increment)



demo sample



V-block with clamp



rotary table



vise


















printer (only for ISP-A7000E)

To be continue

Continued from previous page

SPECIFICATION

Part No.		ISP-W4025*			ISP-A7000E*	
Edge detector		not included			included	
Lens	magnification	5X (optional)	10X (standard)	20X (optional)	50X (optional)	100X (optional)
	view field	3.15" DIA	1.57" DIA	.79" DIA	.31" DIA	.16" DIA
	working distance	3.69"	4.09"	3.74"	2.59"	1.38"
Magnification accuracy		±0.08%				
Image		erect image				
Projector screen		diameter: 16" DIA				
		rotation range: 0°~360°, resolution: 1' or 0.01°				
		reference lines: cross-hairs				
Stage	metal stage size	17.72×7.87"				
	turning range	±15°				
	X-Z stage travel	range: 10×6"				
		resolution: .00002"				
	Y (focus) travel range	accuracy: (157.5+40L)µin L is the measuring length in inch				
max. load capacity	3.94"					
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 12V/150W halogen lamp(with 2 fibers), position is adjustable				
Data processing unit	display	X-Z stage travel, screen rotation				
	output	RS232C		RS232C, USB(data output to Excel and CAD)		
	function	 measure coordinate of point	 measure coordinate of point			
		 measure coordinate of line	 measure coordinate of line			
		 measure center coordinate, radius of circle with three points	 measure center coordinate, radius of circle with three points			
		 measure distance between two objects	 measure distance between two objects			
		 measure angle with four points or two lines	 measure angle with four points or two lines			
		 set origin of coordinate	 coordinate transform			
		 coordinate transform	 choose measurement object automatically according to the selective point and display the result			
		 set midpoint of coordinate	Programming for batch measurements			
Power supply	110/220V, 50/60Hz					
Dimension (L×W×H)	47.83×25.43×47.64"					
Weight	529lb					

STANDARD DELIVERY

Main unit	1pc
10X lens	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc
USB cable and software (only for ISP-A7000E)	1pc

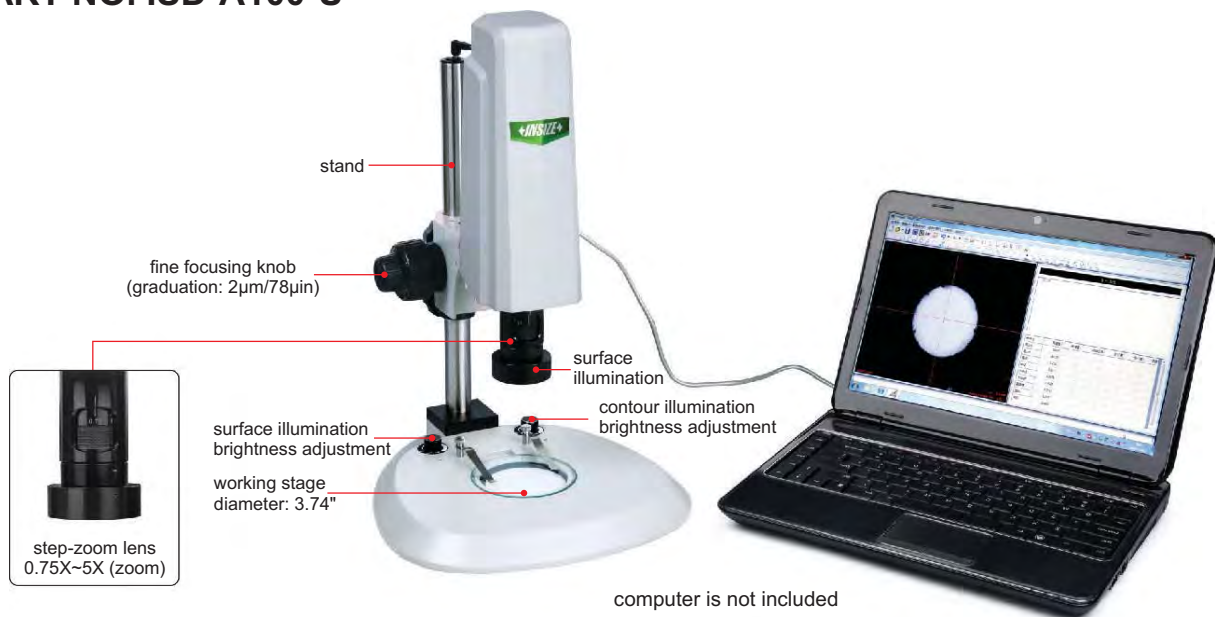
OPTIONAL ACCESSORY

5X lens	ISP-W4025-LENS5X
20X lens	ISP-W4025-LENS20X
50X lens	ISP-W4025-LENS50X
100X lens	ISP-W4025-LENS100X
11.81" DIA overlay chart	ISP-A3000-CHART
50mm/1.97" reading scale	ISP-A3000-SCALE50

300mm/11.81" calibration scale	ISD-A3000-RULE
Demo sample	ISP-A3000-DEMO
V-block with clamp	ISP-A1000-VBLOCK
Rotary table	ISP-A3000-RTABLE
Vice	ISP-A3000-VISE
Wireless printer (only for ISP-A7000E)	ISH-A3000-PRINTER

*Supply with manufacturer inspection certificate

VISION MEASURING SYSTEM PART NO. ISD-A100-U**



- Measures small workpiece (less than .59") easily and accurately



calibration block (included)



X-Y stage (included)

SPECIFICATION

Objective	0.75X~5X (zoom)	
Auxiliary objective	1X (included)	0.5X (included)
Focus distance	3.23"	6.89"
View field (diagonal length)	.05~.30"	.09~.59"
Magnification (19" widescreen display)	44X~280X	22X~140X
Camera	CMOS (color)	
Resolution (pixel)	1280×1024 (1.3M)	
Output	USB2.0	
Accuracy	.00016"	
Repeatability	.00008"	
Illumination	surface: adjustable ring LED contour: adjustable LED	
** Power supply	110V, 50/60Hz	
Demension (L×W×H)	11.81×13.78×17.72"	
Weight	6.17lb	

STANDARD DELIVERY

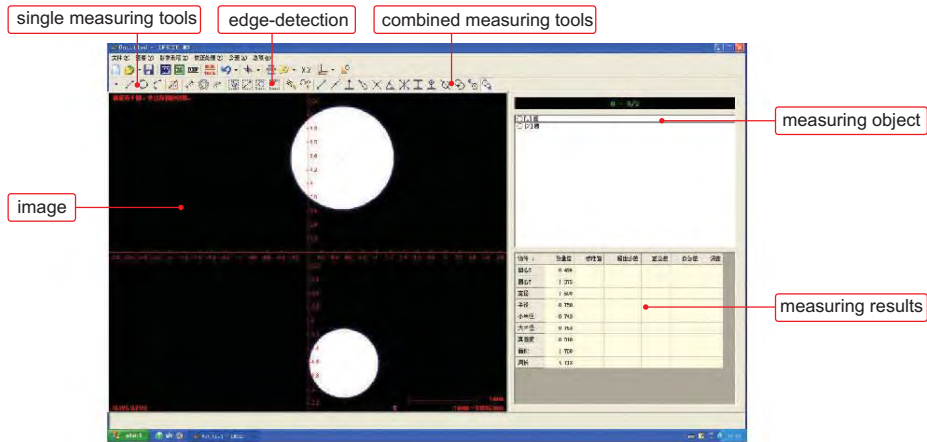
Main unit	1pc
Software disc	1pc
X-Y stage (travel: 2.91×2.36")	1pc
Calibration block	1pc
0.5X auxiliary objective	1pc

1X auxiliary objective	1pc
3.74" DIA glass plate	1pc
3.74" DIA white/black plate	1pc
Anti-dust cover	1pc

To be continued

Continued from previous page

SOFTWARE FOR VISION MEASURING SYSTEM ISD-A100-U



- **Operation system:** Windows 7/XP
- **Language:** English, Chinese
- **Output to CAD, EXCEL and WORD**
- **Input CAD, to compare with workpieces**



coordinate transform

▪ Focus indicator:



fast and accurately find the focus distance, eliminate the visual error

▪ Single measuring tools:



measure coordinate of point



measure length of line



measure center coordinate, radius, diameter and area of circle



measure length and diameter of arc

▪ Combined measuring tools:



measure distance between two points



find midpoint of a line



measure distance from point to line



find tangent lines between point and circle



measure intersection point between two lines



measure angle between two lines



find angular bisector between two lines



measure distance between two lines



measure distance from circle to line



find intersection points between circle and line



find intersection points between two circles



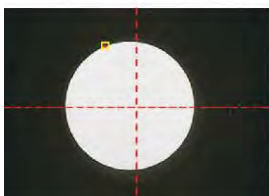
measure distance between two circles



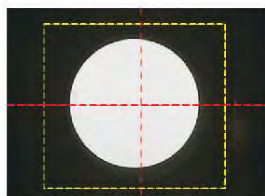
find tangent lines between two circles

▪ Edge-detection:

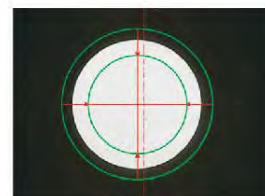
Point tool



Box tool



Circle tool



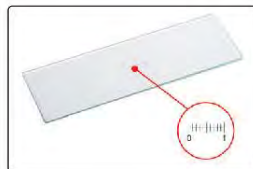
WiFi DIGITAL MEASURING MICROSCOPE PART NO. ISM-WF200



STAND (part no.: ISM-WSTD, optional)



calibration rule (graduation 1mm)



calibration rule (graduation 0.1mm)

- Maximum working distance is 200" under WiFi mode
- Can be connected to multiple iPads or computers at the same time under WiFi mode
- Can take pictures and videos
- Supplied with software

SPECIFICATION

Magnification	10X~200X
Pixel	1.3M (resolution: 1280×1024)
Illumination	built-in adjustable LED
Power supply	built-in rechargeable battery

MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

Magnification	Focus distance	View field	Accuracy
50X	.83"	.32×.25"	1.2mil
100X	.51"	.15×.12"	0.6mil
150X	.63"	.10×.08"	0.4mil
200X	.75"	.07×.06"	0.3mil



connected to iPad by WiFi



connected to computer by WiFi



connected to computer by USB cable

STANDARD DELIVERY

Microscope	1pc
Base support	1pc
Focus support ring for 80X/150X	1pc
Focus support ring for 60X/200X	1pc
Calibration rule (graduation 0.1mm)	1pc
Calibration rule (graduation 1mm)	1pc
USB cable and software	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY




Stand	ISM-WSTD
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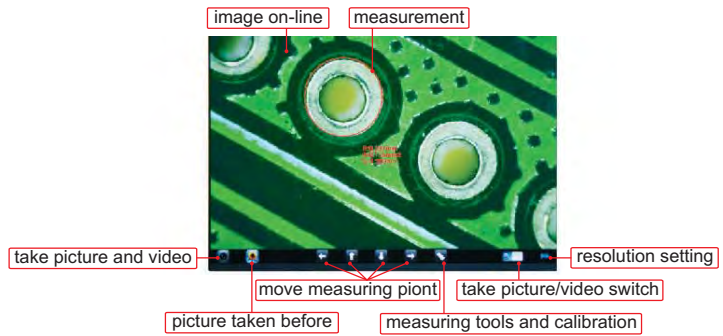
To be continued

Continued from previous page

1 Software ISM-PAD (for iPad by WiFi)












■ **Measuring tools:**

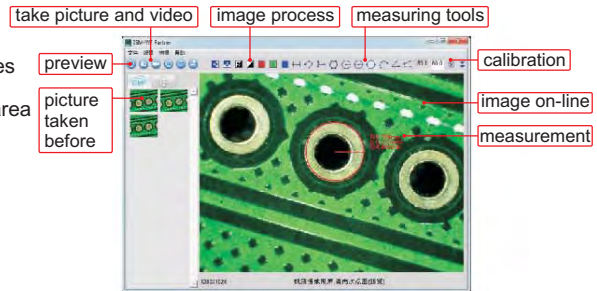
-  measure length of line or distance between two points
-  measure radius, girth and area of circle with three points
-  measure angle



2 Software ISM-WF Partner (for computer by WiFi)













■ **Measuring tools:**

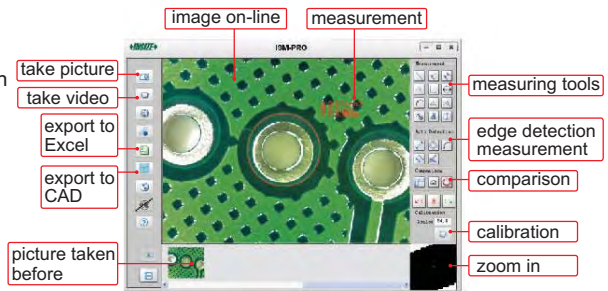
- | | |
|--|--|
|  measure length of line or distance between two points |  measure angle with two lines |
|  measure area of polygon |  measure radius, girth and area of circle with two points |
|  measure angle with three points |  measure distance between point and line |
|  measure radius, girth and area of circle with center point |  measure radius, length and angle of arc |
|  measure length of continuous line |  measure area of rectangle |
|  measure radius, girth and area of circle with three points | |








3 Software ISM-PRO (for computer by USB cable)

■ **Measuring tools:**

- | | |
|---|---|
|  measure length of line or distance between two points |  measure distance between point and line |
|  measure length of continuous line |  measure area of rectangle |
|  measure radius, length and angle of arc |  measure angle with three points |
|  measure distance between two circles |  add text |
|  measure distance between two parallel lines |  measure angle with two lines |
|  measure radius, girth and area of circle |  add number with circle |




■ **Edge detection measurement:**


- | | | |
|--|---|---|
|  detect line automatically, and calculate length |  detect circle automatically, and calculate radius, girth and area |  detect two lines automatically, and calculate angle |
|  detect arc automatically, and calculate radius, angle and arc length |  detect two parallel lines automatically and calculate distance | |

■ **Comparison:**

Create line, angle or circle with desired size, to compare with workpieces

 create line



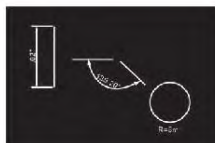
 create angle



 create circle with tolerance



■ **Data export to CAD or Excel:**



DIGITAL MEASURING MICROSCOPE



- Can take pictures and videos
- Supplied with software

SPECIFICATION

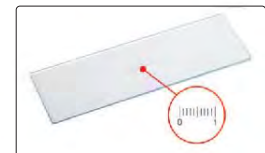
Part No.	ISM-PM200SB	ISM-PM600SB	ISM-PM160LA
Magnification	10X~200X	450X~600X	35X~160X
Type	short focus distance	short focus distance	long focus distance
Focus support	included	not included	not included
Calibration rule	graduation 0.1 and 1mm	graduation 0.1mm	graduation 0.1 and 1mm
Pixel	2M (resolution: 1600×1200)		
Illumination	built-in adjustable LED		
Power supply	USB 2.0 cable (voltage required: 5±0.1V)		



focus support



calibration rule (graduation 1mm)



calibration rule (graduation 0.1mm)

MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

ISM-PM200SB			
Magnification	Focus distance	View field	Accuracy
		.32×.25"	
		.15×.12"	
150X	.63"	.10×.08"	0.4mil
200X	.75"	.07×.06"	0.3mil

ISM-PM600SB			
Magnification	Focus distance	View field	Accuracy
450X	.06"	.03×.03"	.24mil
500X	.22"	.03×.02"	.24mil
550X	.34"	.03×.02"	.20mil
600X	.45"	.02×.02"	.20mil

ISM-PM160LA			
Magnification	Focus distance	View field	Accuracy
50X	2.44"	.32×.25"	1.2mil
100X	1.77"	.15×.12"	0.6mil
160X	1.97"	.09×.07"	0.4mil



put the digital microscope directly on the workpiece for inspection and measurement

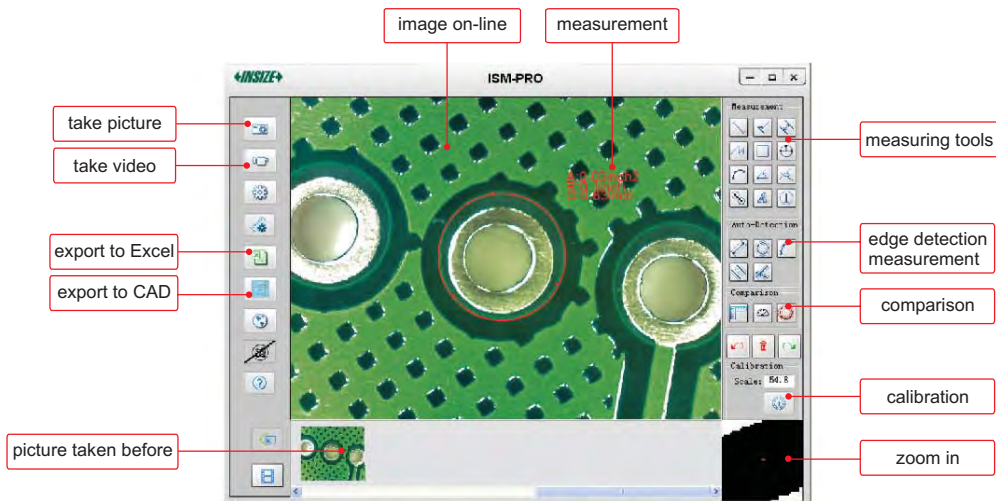
stand



To be continued

Continued from previous page

SOFTWARE FOR DIGITAL MEASURING MICROSCOPE



- **Language:** English, Japanese, Korean, German, Turkey, Portuguese, Chinese
- **Operation system:** Windows 7/8/XP/ Vista
- **Measuring tools:**

- measure length of line or distance between two points
- measure length of continuous line
- measure radius, length and angle of arc
- measure distance between two circles

- measure distance between point and line
- measure area of rectangle
- measure angle with three points
- add text

- measure distance between two parallel lines
- measure radius, girth and area of circle
- measure angle with two lines
- add number with circle

- **Edge detection measurement:**

- detect line automatically, and calculate length
- detect arc automatically, and calculate radius, angle and arc length
- detect two lines automatically, and calculate angle

- detect circle automatically, and calculate radius, girth and area
- detect two parallel lines automatically and calculate distance

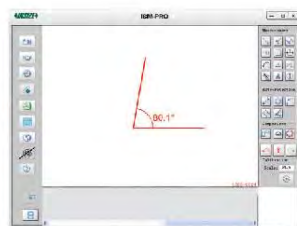
- **Comparison:**

Create line, angle or circle with desired size, to compare with workpieces.

- create line



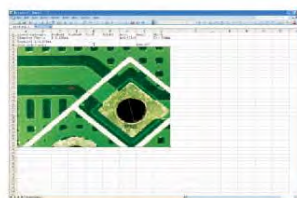
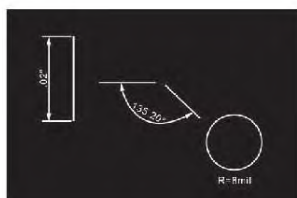
- create angle



- create circle with tolerance



- **Data export to CAD or Excel:**



TV DIGITAL MICROSCOPE



ISM-TV200 (with wire)

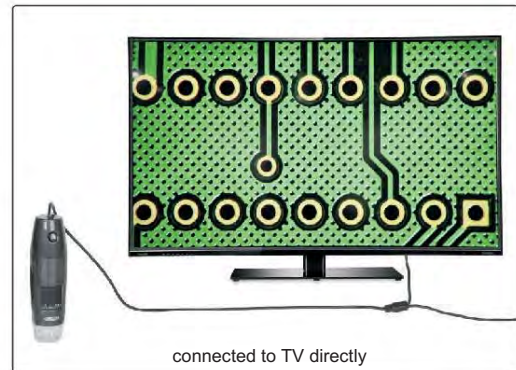


ISM-TV200W (wireless)

STAND (part no.: ISM-WSTD, optional)



- Connected to TV directly
- For observation, cannot take pictures and videos



SPECIFICATION

Part No.	ISM-TV200	ISM-TV200W
Type	with wire	wireless (maximum transmission distance 200")
Magnification	10X~200X (on 17" TV)	
Pixel	0.35M	
Illumination	adjustable brightness LED	
Focus	supplied with focus ring, stand (ISM-WSTD) is optional	
Power supply	DC	built-in rechargeable battery

MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD

ISM-TV200			ISM-TV200W		
Magnification	Focus distance	View field	Magnification	Focus distance	View field
50X	.83"	.32×.25"	60X	.75"	.27×.20"
100X	.51"	.15×.12"	80X	.63"	.20×.15"
150X	.63"	.10×.08"	150X	.63"	.10×.08"
200X	.75"	.07×.06"	200X	.75"	.07×.06"

ZOOM STEREO MICROSCOPE



ISM-ZS50

SPECIFICATION

Part No.	ISM-ZS50	ISM-ZS50T
Optical tube	binocular	trinocular
Eyepiece (wide field)	10X (view field: .87" DIA)	
Objective	0.8X~5X (zoom)	
Zoom ratio	1:6.3	
Pupil distance	2.17~2.95" (adjustable)	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	4.53"	
Max. workpiece height	8.46"	
Illumination	adjustable reflected and transmitted LED light	
Power supply	110/220V, 50/60Hz	
Dimension (L×W×H)	11.42×10.24×18.90"	
Weight	10.80lb	

STANDARD DELIVERY

Main unit	1pc
WF 10X eyepiece	2pcs
3.94" DIA glass plate	1pc
3.94" DIA white/black plate	1pc
Anti-dust cover	1pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS50-OB05X
	2X	ISM-ZS50-OB2X
Eyepiece	10X dividing eyepiece (0.1mm/div.)	ISM-ZS50-EPD10X
	WF15X (view field: .63" DIA)	ISM-ZS50-EP15X
	WF20X (view field: .47" DIA)	ISM-ZS50-EP20X
Digital camera		ISM-D500

ZOOM STEREO MICROSCOPE



SPECIFICATION

Part No.	ISM-ZS30
Optical tube	binocular
Eyepiece (wide field)	10X (view field: .8" DIA)
Objective	1X~4.5X (zoom)
Zoom ratio	1:4.5
Pupil distance	2.17~2.95" (adjustable)
Diopter adjustment	±5 diopter (two eyepieces)
Working distance of objective	3.82"
Max. workpiece height	5.79"
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60Hz
Dimension (L×W×H)	10.24×7.48"×15.75"
Weight	9.48lb

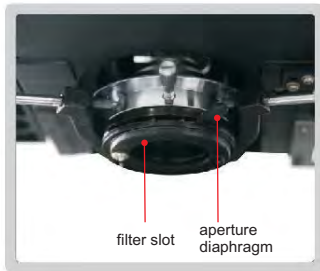
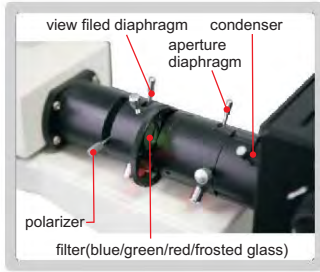
STANDARD DELIVERY

Main unit	1pc
WF 10X eyepiece	2pcs
3.74" DIA glass plate	1pc
3.74" DIA white/black plate	1pc
Anti-dust cover	1pc

OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS30-OB05X
	0.63X	ISM-ZS30-OB06X
	0.75X	ISM-ZS30-OB07X
	2X	ISM-ZS30-OB2X
Eyepiece	10X dividing eyepiece (0.1mm/div.)	ISM-ZS30-EPD10X
	WF15X (view field: .63" DIA)	ISM-ZS50-EP15X
	WF20X (view field: .47" DIA)	ISM-ZS50-EP20X
Digital camera		ISM-D500

HIGH MAGNIFICATION MICROSCOPE PART NO. ISM-M600-U**



- For high magnification observation
- Reflected and transmitted illumination can work at the same time
- Objectives 40X, 60X are spring type

SPECIFICATION

Eyepiece (wide field)	10X (view field: .71" DIA)				
Objective (plan achromatic)	5X	10X	20X	40X	60X
Numerical aperture	0.12	0.25	0.40	0.60	0.75
Working distance	.72"	.35"	.34"	.15"	.05"
Stage	double layer with sample clamp				
	size: 6.30×5.51"				
	travel: 2.95"×1.97" (graduation: 0.1mm/.004")				
Pupil distance	2.09~2.95"				
Diopter adjustment	±5 diopter (one eyepiece)				
Illumination	reflected and transmitted: 6V/20W halogen lamp, brightness is adjustable				
**Power supply	110V, 50/60Hz				
Dimension (L×W×H)	17.72×11.81×13.78"				
Weight	24.25lb				

STANDARD DELIVERY

Main unit	1pc
Anti-dust cover	1pc
Filter (blue/green/frosted glass)	1pc of each

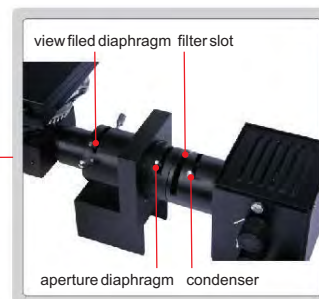
OPTIONAL ACCESSORY

Objective	PL80X	ISM-MTM-OB80X
	PL100X (dry type)	ISM-MTM-OB100X
10X dividing eyepiece (0.1mm/div.)		ISM-MTM-EPD10X
WF16X eyepiece		ISM-MTM-EP16X

WF20X eyepiece	ISM-MTM-EP20X
Camera adapter (1X)	ISM-M600-ADAPTER
Digital camera	ISM-D500

HIGH MAGNIFICATION MICROSCOPE

PART NO. ISM-M1000-U**



- For high magnification observation
- Kohler illumination system provides uniform illumination field
- Objectives 20X, 40X, 100X are spring type

SPECIFICATION

Eyepiece (wide field)	10X (view field: .71" DIA)			
Objective (plan achromatic)	10X	20X	40X	100X (oil type)
Numerical aperture	0.25	0.40	0.60	1.25
Working distance	.35"	.34"	.13"	.01"
Stage	double layer			
	size: 7.09×5.91"			
	travel: .59×.59"			
Pupil distance	2.09~2.95"			
Diopter adjustment	±5 diopter (one eyepiece)			
Illumination	6V/20W halogen lamp			
**Power supply	110V, 50/60Hz			
Dimension (L×W×H)	15.16×11.81×17.32"			
Weight	24.25lb			

STANDARD DELIVERY

Main unit	1pc
Oil for 100X objective	1 bottle
Anti-dust cover	1pc
Filter (blue/green/yellow)	1pc of each

OPTIONAL ACCESSORY

Objective	PL50X	ISM-MTM-OB50X
	PL60X	ISM-MTM-OB60X
	PL80X	ISM-MTM-OB80X
	PL100X (dry type)	ISM-MTM-OB100X
10X dividing eyepiece (0.1mm/div.)		ISM-MTM-EPD10X

WF16X eyepiece	ISM-MTM-EP16X
WF20X eyepiece	ISM-MTM-EP20X
Camera adapter (1X)	ISM-M1000-ADAPTER
Digital camera	ISM-D500

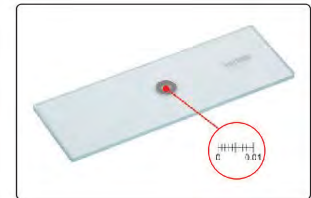
METALLURGICAL MICROSCOPE PART NO. ISM-M2000



- For high magnification observation and metallurgical image analysis
- Infinite optical system, can add optical accessories like polarizer, analyzer, DIC (part no. ISM-M2000-DIC) into optical path without image quality influence
- Objective can be used in both bright field and dark field
- Kohler illumination system provides uniform illumination field
- Three working modes: 100% eyepiece observation, 100% camera observation, both eyepiece and camera observation (80% illuminance for camera and 20% illuminance for eyepiece)



adapter 0.5X (included)



calibration rule (graduation 0.01mm)

SPECIFICATION

Eyepiece (wide field)	10X (view field: .87" DIA)				
Objective (plan achromatic)	5X (included)	10X (included)	20X (included)	50X (included)	100X (included)
Numerical aperture	0.12	0.25	0.40	0.75	0.90
Working distance	.39"	.39"	.20"	.05"	.03"
Stage	double layer, size: 6.30×5.51", travel: 2.95×1.97" (graduation: 0.1mm/.004")				
Kohler illumination	12V/50W halogen lamp, brightness is adjustable with polarizer and analyzer, built-in green, yellow, blue, gray and frosted glass				
Pupil distance	1.89 ~ 2.95"				
Diopter adjustment	±5 diopter (two eyepieces)				
Power supply	110/220V, 50/60Hz				
Dimension (L×W×H)	25.47×10.55×14.80"				
Weight	26.46lb				

STANDARD DELIVERY

Main unit	1pc
10X dividing eyepiece (0.1mm/div.)	1pc
Calibration rule (graduation 0.01mm)	1pc
Camera adapter	1pc
Adapter 0.5X	1pc
Anti-dust cover	1pc

OPTIONAL ACCESSORY

15X eyepiece (view field: .63" DIA)	ISM-M2000-15X
20X eyepiece (view field: .47" DIA)	ISM-M2000-20X
DIC	ISM-M2000-DIC
Metallurgical image analysis software and camera	ISM-MAS100

METALLURGICAL IMAGE ANALYSIS SOFTWARE AND CAMERA PART NO. ISM-MAS100



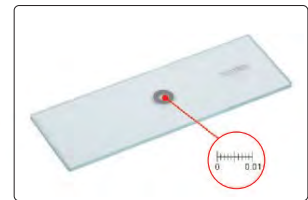
application example



- Inserted into eyepiece tube or camera connector of microscopes
- Supply with software for metallurgical structure analysis, measurement and evaluation



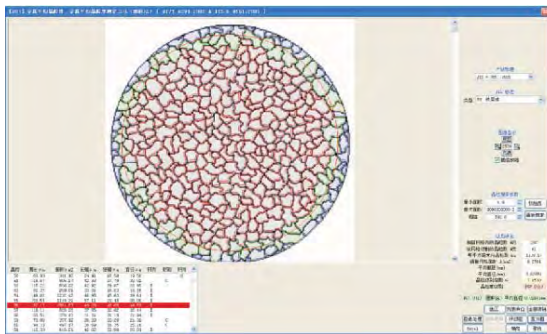
adapter 0.5X (optional)



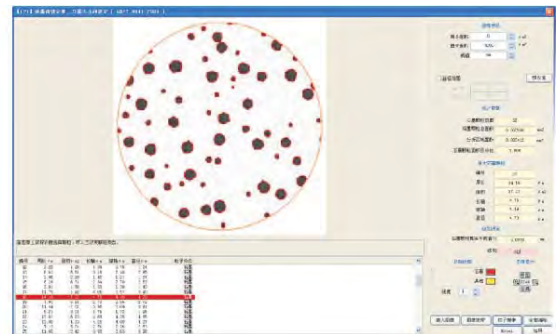
calibration rule (optional, graduation 0.01mm)

metallurgical image analysis software (included)

measure the average grain size of metal



measure and evaluate the graphite size of ductile iron



SPECIFICATION

Sensor	1/2" CMOS
Pixel	300M
Resolution	2048×1536
Frame rate	6fps
Exposure	manual or auto, exposure time is adjustable
SNR	43dB
Power supply	USB
Weight	.88lb

STANDARD DELIVERY

Camera	1pc
USB cable and software	1pc

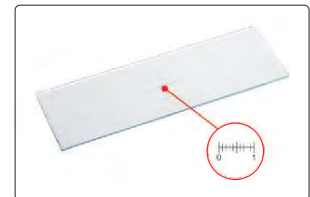
OPTIONAL ACCESSORY

Calibration rule (graduation 0.01mm)	ISM-MAS-SCALE
Adapter 0.5X	ISM-MAS-ADAPTER

DIGITAL CAMERA PART NO. ISM-D500



connector .91" DIA/1.18" DIA



calibration rule (graduation 0.1mm)

- Inserted into eyepiece tube or camera connector of microscopes
- Supplied with software

SPECIFICATION

Sensor	1/2.5" CMOS
Pixel	5M
Resolution	2592×1944 or 1296×972
Frame rate	3fps (2592×1944) 12fps (1296×972)
Exposure	manual or auto, exposure time is adjustable
SNR	41dB
Power supply	USB
Weight	.88lb

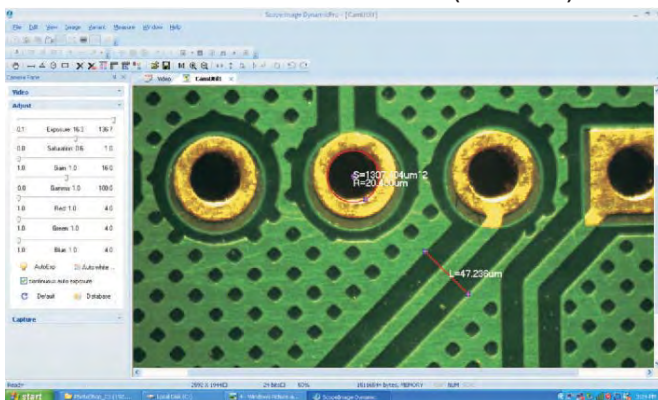
STANDARD DELIVERY

Main unit	1pc
Adapter 0.45X	1pc
Calibration rule (graduation 0.1mm)	1pc
Connector .91" DIA/1.18" DIA	1pc
USB cable	1pc
Software disc	1pc

OPTIONAL ACCESSORY

Connector .91" DIA/1.20" DIA	ISM-DCA-CON
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SOFTWARE FOR DIGITAL CAMERA (INCLUDED)



Measuring Tools:

- measure distance between two points
- measure angle with three points
- measure circle
- measure rectangle
- calibration

- Can take pictures and videos
- Exposure/gain/gamma/saturation/colour adjustment
- Image process feature: zoom in/out, image flip and so on

PORTABLE MEASURING MICROSCOPE

PART NO. ISM-PM100



SPECIFICATION

Total magnification	100X
Eyepiece	10X with graduation
Objective (achromatic)	10X (numerical aperture: 0.25)
Working distance	.28"
Focus range	1.18"
Viewing field	.07" DIA
Graduation	0.01mm/.0004"
Illumination	LED light
Diameter of base	2.48" DIA
Height	8.27"
Weight	1.43lb

STANDARD DELIVERY

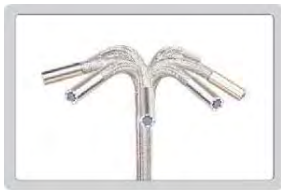
Main unit	1pc
Pen light	1pc
Battery (AAA)	2pcs

**STEEL WIRE WEAVED CABLE
RESISTANCE TO BREAK AND WEAR**

**ATTENTION: THE CABLE CAN BE BENT
BUT CAN'T BE SET AT A FIXED SHAPE**

360° SWIVEL VIDEOSCOPE

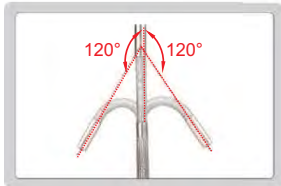
**IP65
WATERPROOF**



bend in any direction



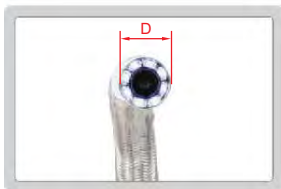
360° swivel in clockwise and counter-clockwise



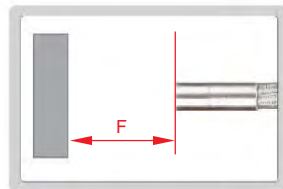
bend within $\pm 120^\circ$

steel wire weaved cable length: 60"

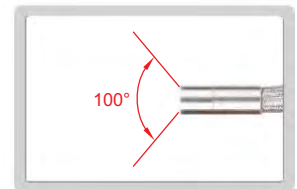
lens with adjustable LED illumination



lens with LED adjustable illumination



focus distance



angle of view: 100°

SPECIFICATION

Part No.	ISV-2000D	ISV-2001D	ISV-3000D	ISV-3001D	
Lens	diameter(D)	.26"	.18"		
	focus distance(F)	.6" ~ ∞	.3 ~ 3.2"		
	illumination	8pcs LED	6pcs LED		
	pixel	0.35M			
	dust/waterproof	IP65			
	bend control	manual			
Cable	length	60"	120"	60" 120"	
	type	steel wire weaved cable			
Main unit	function	take picture, take video			
	file format	picture: JPG, video: AVI			
	image process	brightness, image quality zoom (1X, 2X, 3X, 4X, 5X)			
	memory	8G SD card			
	output	TV, USB			
power supply	rechargeable battery (for 2 hours working)				
Weight	1.43lb	1.76lb	1.32lb	1.54lb	

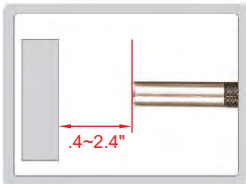
STANDARD DELIVERY

Main unit	1pc
Cable with lens	1pc
8G SD card	1pc
AC/DC adapter	1pc
Video output cable	1pc
USB cable	1pc

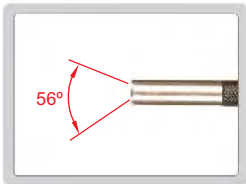
VIDEOSCOPE

PART NO. ISV-VP60

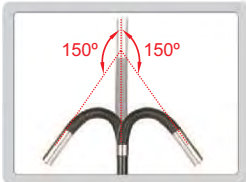
IP67
WATERPROOF



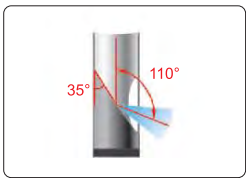
focus distance: .4~2.4"



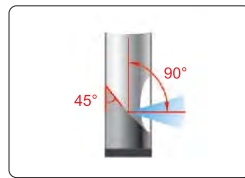
angle of view: 56°



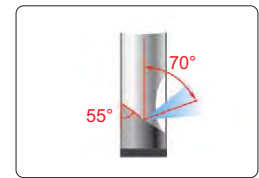
lens can be bent in two directions (±150°)



35° mirror (included)



45° mirror (optional)



55° mirror (optional)



front view



side view (with mirror)

SPECIFICATION

Lens	diameter	.24"
	dust/waterproof	IP67
	pixel	0.3M
	resolution	640×480
	frame rate	30fps
Cable	length	40"
	type	semi-rigid
Main unit	function	take picture, take video
	file format	picture: JPG , video: ASF
	image process	mirror, rotate, zoom (1.5X, 2X)
	memory	4G SD card
	output	TV, USB
	power supply	4×AA batteries
Weight		1.21lb

STANDARD DELIVERY

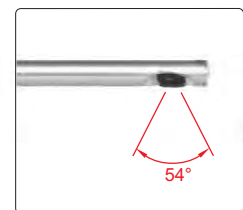
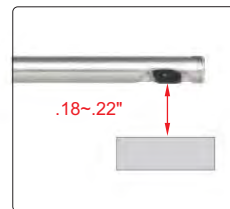
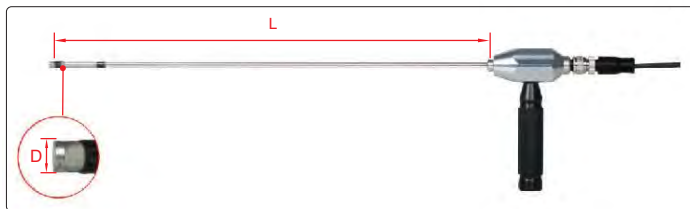
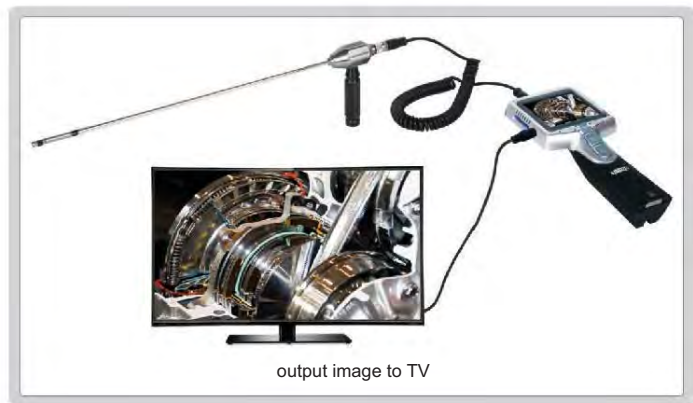
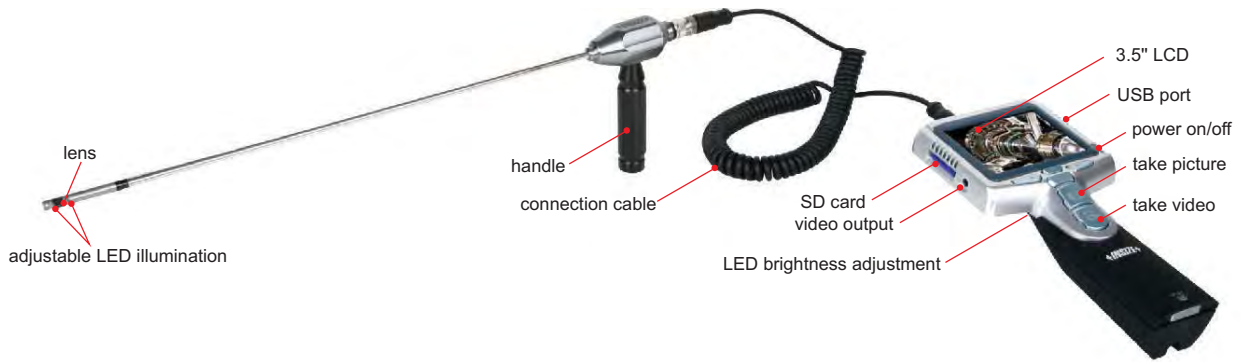
Main unit	1pc
Cable with lens	1pc
35° mirror	1pc
4G SD card	1pc
AA battery	4pcs
Video output cable	1pc
USB cable	1pc

OPTIONAL ACCESSORY

45° mirror	ISV-VP60-R45
55° mirror	ISV-VP60-R55

IP57
WATERPROOF

SIDE VIEW VIDEOSCOPE (RIGID) PART NO. ISV-RV



SPECIFICATION

Diameter (D)	.22"
Length (L)	14"
Dust/waterproof probe	IP57
Pixel	0.3M
Resolution	640×480
Frame rate	30fps
Function	take picture, take video
File format	picture: JPG, video: AVI
Memory	2G SD card
Output	TV, USB
Power supply	rechargeable battery (for 3 hours working)
Weight	1.26lb

STANDARD DELIVERY

Main unit	1pc
2G SD card	1pc
AC/DC adapter	1pc
Video output cable	1pc
USB cable	1pc

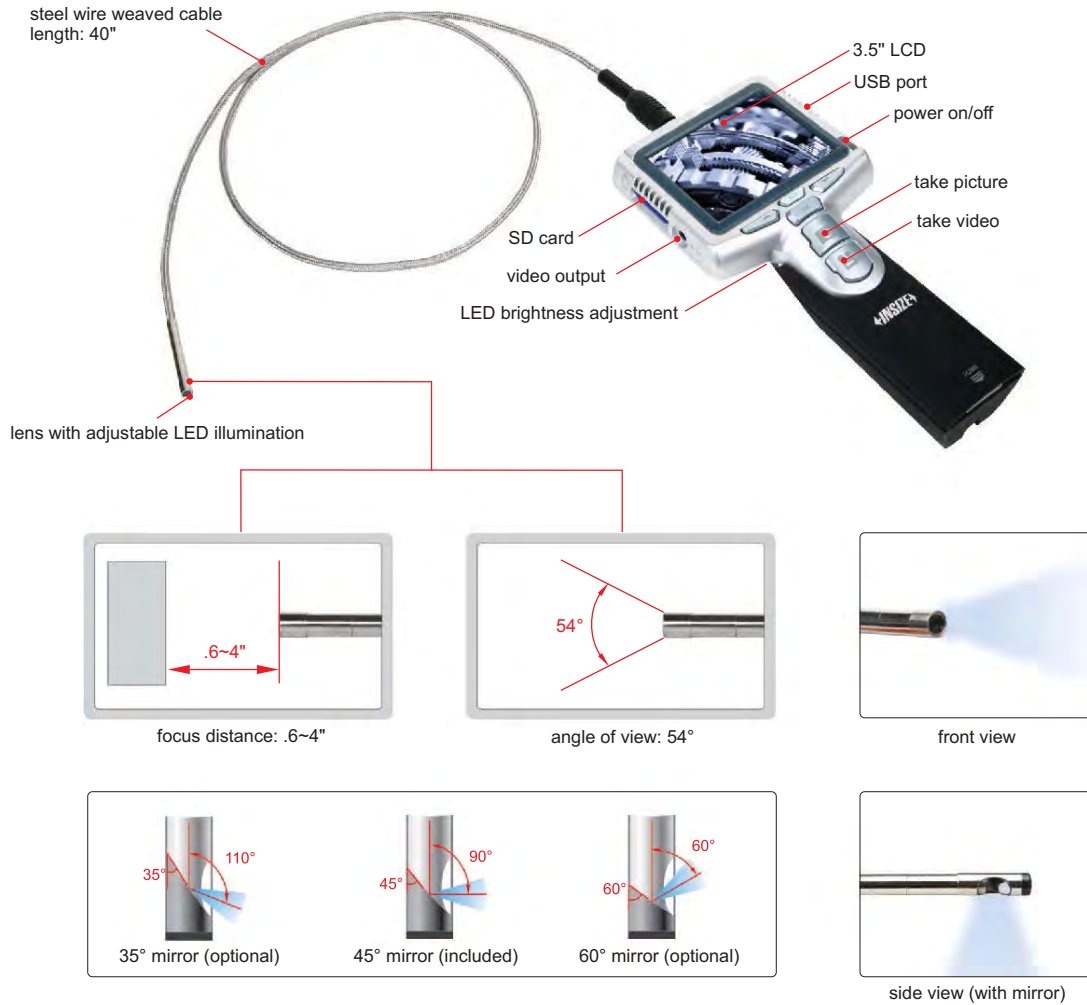
VIDEOSCOPE PART NO. ISV-E10

STEEL WIRE WEAVED CABLE
RESISTANCE TO BREAK AND WEAR

ATTENTION: THE CABLE CAN BE BENT
BUT CAN'T BE SET AT A FIXED SHAPE

IP65
WATERPROOF

OPTIONAL CABLE
LENGTH 9.8FT, 16.4FT AND 32.8FT



SPECIFICATION

Lens	diameter	.22"
	pixel	0.3M
	resolution	640×480
	frame rate	30fps
Cable	length	40"
	type	steel wire weaved cable
Main unit	function	take picture, take video
	file format	picture: JPG, video: AVI
	image process	brightness, contrast, color saturation
	memory	2G SD card
	output	TV, USB
	power supply	rechargeable battery (for 3 hours working)
Weight		.99lb

STANDARD DELIVERY

Main unit	1pc
Cable with lens	1pc
2G SD card	1pc
45° mirror	1pc
AC/DC adapter	1pc
Video output cable	1pc
USB cable	1pc
Lens cleaning kit	1pc

OPTIONAL ACCESSORY

35° mirror	ISV-E55-M35
60° mirror	ISV-E55-M60

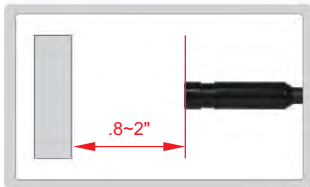
IP57
WATERPROOF

VIDEOSCOPE PART NO. ISV-E20

lens with 8pcs LED
adjustable illumination

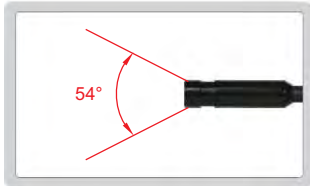


the cable has high illumination and can be set at any shape
it is suitable to observe large internal space like turbocharger



focus distance: .8~2"

memory cable
length: 40"



angle of view: 54°



45° mirror (optional)



hook (optional)



magnet pick up (optional)

SPECIFICATION

Lens	diameter (D)	.47"
	pixel	0.4M
	resolution	720×682
	frame rate	30fps
Cable	length	40"
	type	memory (can be set at any shape)
Main unit	function	take picture, take video
	file format	picture: JPG, video: AVI
	image process	brightness, contrast, color saturation
	memory	2G SD card
	output	TV, USB
	power supply	rechargeable battery (for 3 hours working)
Weight		1.32lb

STANDARD DELIVERY

Main unit	1pc
Cable with lens	1pc
2G SD card	1pc
AC/DC adapter	1pc
Video output cable	1pc
USB cable	1pc
Lens cleaning kit	1pc

OPTIONAL ACCESSORY

45° mirror	ISV-E20-MIRROR
Hook	ISV-E20-HOOK
Magnet pick up	ISV-E20-MAGNET

VIDEOSCOPE MAIN UNIT PART NO. ISV-MUE55

SPECIFICATION

Function	take picture and video
File format	picture: JPG, video: AVI
Image process	brightness, contrast and color saturation
Memory	2G SD card
Output	TV, USB
Power supply	rechargeable battery (for 3 hours working)
Weight	.95lb



STANDARD DELIVERY

Main unit	1pc	Video output cable	1pc
2G SD card	1pc	USB cable	1pc
AC/DC adapter	1pc	Lens cleaning kit	1pc

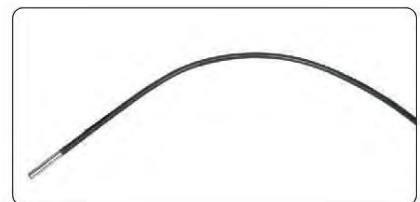
CABLE FOR VIDEOSCOPE

IP57
WATERPROOF

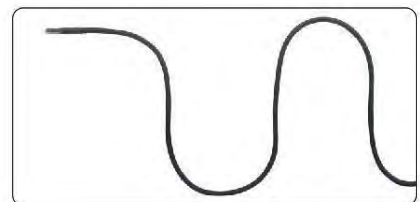
- IP57 dust/waterproof
- With adjustable LED illumination

SPECIFICATION

Part No.	Type	Cable length	Diameter (Ød)	Focus distance (L)	Pixel
ISV-E55-C3901	semi-rigid	40"	.15"	.4 ~ 1.6"	pixel 0.1M resolution 320×240 frame rate 30fps
ISV-E55-C55003	semi-rigid	12"	.22"	.6 ~ 4"	pixel 0.3M resolution 640×480 frame rate 30fps
ISV-E55-C5501		40"			
ISV-E55-C5503		120"			
ISV-E55-C5505		200"			
ISV-E55-C5510		400"			
ISV-E55-R5501	soft	40"	.22"	.6 ~ 4"	
ISV-E55-CS5501	semi-rigid	40"	.22"	.3" (short focus)	



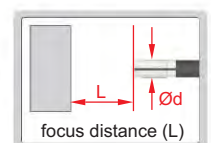
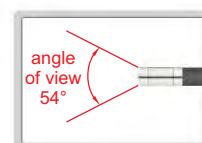
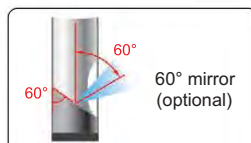
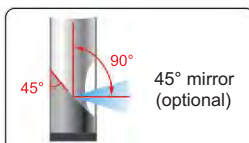
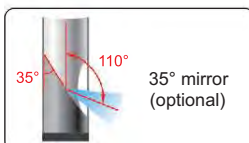
semi-rigid cable
(can be bent slightly, but cannot be set)



soft cable (can be set at any shape)

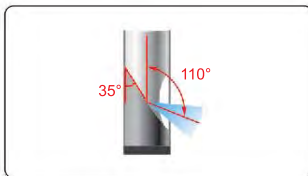
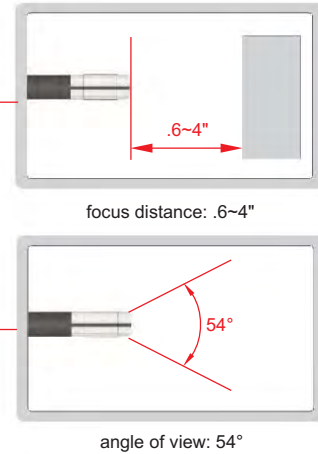
OPTIONAL ACCESSORY

35° mirror (for .22" DIA probe)	ISV-E55-M35
45° mirror (for .22" DIA probe)	ISV-E55-M45
60° mirror (for .22" DIA probe)	ISV-E55-M60

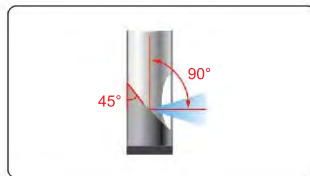


IP57
WATERPROOF

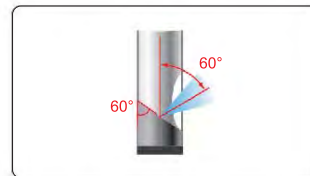
VIDEOSCOPE PART NO. ISV-E55C



35° mirror (optional)



45° mirror (optional)



60° mirror (optional)

SPECIFICATION

Lens	diameter	.22"
	dust/waterproof	IP57
	pixel	0.3M
	resolution	640×480
	frame rate	30fps
Cable	length	40"
	type	semi-rigid
Power supply		USB
Weight		.33lb

STANDARD DELIVERY

Main unit	1pc
Cable with lens	1pc
USB cable and software	1pc
Lens cleaning kit	1pc

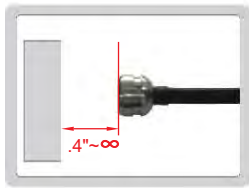
OPTIONAL ACCESSORY

35° mirror	ISV-E55-M35
45° mirror	ISV-E55-M45
60° mirror	ISV-E55-M60

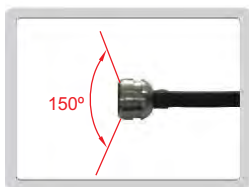
PIPE VIDEOSCOPE PART NO. ISV-VP280

ATTENTION: RESISTANCE TO ACID AND
ALKALI LIQUID (CONSULT IS NEEDED)

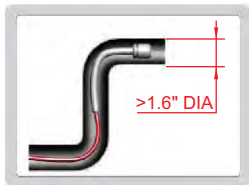
IP68
WATERPROOF



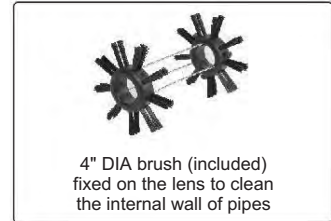
focus distance: 4"~∞



angle of view: 150°



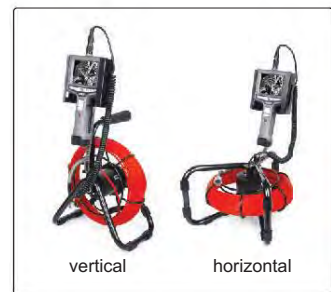
can turn at least two times
in the pipe (>1.6" DIA)



4" DIA brush (included)
fixed on the lens to clean
the internal wall of pipes



2" DIA centering ring (optional)
fixed on the lens to
center lens in the pipe



vertical

horizontal

SPECIFICATION

Lens	diameter	1.10"
	dust/waterproof	IP68
	pixel	0.3M
	resolution	640×480
	frame	30fps
Cable	length	72ft
	dust/waterproof	IP68
	type	semi-rigid
Main unit	function	take picture and video
	file format	picture: JPG, video: ASF
	image process	mirror, rotate, zoom (1.5X, 2X)
	memory	4G SD card
	output	TV, USB
	power supply	4×AA batteries
Weight		11.03lb

STANDARD DELIVERY

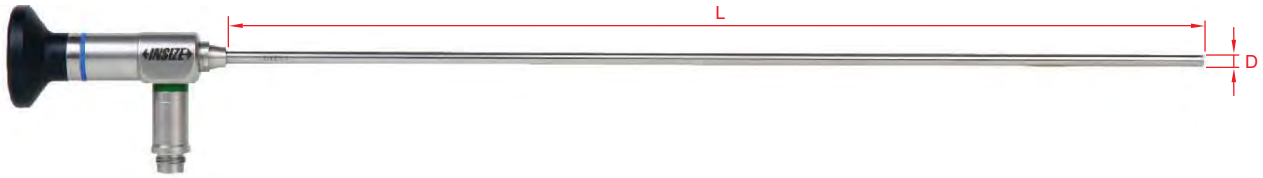
Main unit	1pc
Cable with lens	1pc
Stand	1pc
4G SD card	1pc
4" DIA brush	1pc
AA battery	4pcs
Vdieo output cable	1pc
USB cable	1pc

OPTIONAL ACCESSORY

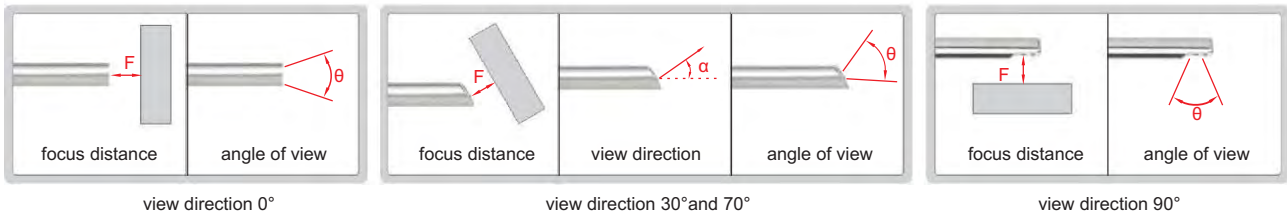
2" DIA centering ring	ISV-VP280-R50
6" DIA brush	ISV-VP280-B150

IP67
WATERPROOF

RIGID BORESCOPE



ISV-1H4300



- Focus distance: .08", depth of view: .2~4"
- Dust/waterproof level: IP67
- Can be used in the liquid with temperature -50°F~185°F

SPECIFICATION

Part No.	Length (L)	View direction (α)	Diameter (D)	Angle of view(θ)
ISV-1H4170	6.85"	0°	.16"	≥60°
ISV-1H4173	6.85"	30°		
ISV-1H4177	6.85"	70°		
ISV-1H4179	6.54"	90°		
ISV-1H4300	11.89"	0°		
ISV-1H4303	11.89"	30°		
ISV-1H4307	11.89"	70°		
ISV-1H4309	11.69"	90°		

Part No.	Length (L)	View direction (α)	Diameter (D)	Angle of view(θ)
ISV-1H6200	8.23"	0°	.24"	≥70°
ISV-1H6203	8.23"	30°		
ISV-1H6207	8.23"	70°		
ISV-1H6209	6.54"	90°		
ISV-1H6320	12.91"	0°		
ISV-1H6323	12.91"	30°		
ISV-1H6327	12.91"	70°		
ISV-1H6329	12.99"	90°		



LED light handle (optional)



adjustable LED light source (optional)



camera (optional)

OPTIONAL ACCESSORY

LED light handle	ISV-1HLED
Adjustable LED light source	ISV-1LED1
Camera	ISV-1CAM

LED LIGHT HANDLE PART NO. ISV-1HLED

- For rigid endoscopes

SPECIFICATION

Power	3W
Battery	3.7V rechargeable battery (for 2 hours working)
Dimension	4.72×1.06×1.06"
Weight	.66lb

STANDARD DELIVERY

Main unit	1pc
Battery	1pc
Charger	1pc



battery



charger



ADJUSTABLE LED LIGHT SOURCE PART NO. ISV-1LED1

- For rigid endoscopes
- High LED illumination and brightness is adjustable
- For long time work with lower noise

SPECIFICATION

Color temperature	5600K
Cooling	fan cooling
Power	AC110~220V, 50/60Hz
Dimension	15.75×11.81×4.41"
Weight	15.44lb



STANDARD DELIVERY

Main unit	1pc
72" optical fiber cable	1pc



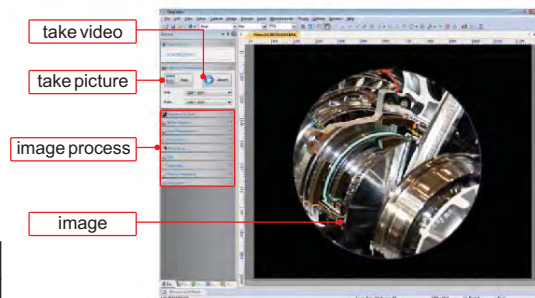
CAMERA PART NO. ISV-1CAM



- For rigid endoscopes
- Connected to computer USB port
- Auto-exposure, auto-gain, auto white balance
- Focus is adjustable

SPECIFICATION

Sensor	color CMOS
Pixel	1.3M
Resolution	1280×1024
Frame rate	15~50fps
Software	take picture, take video, zoom in, zoom out, image rotate
Power supply	USB



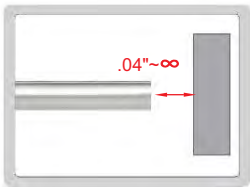
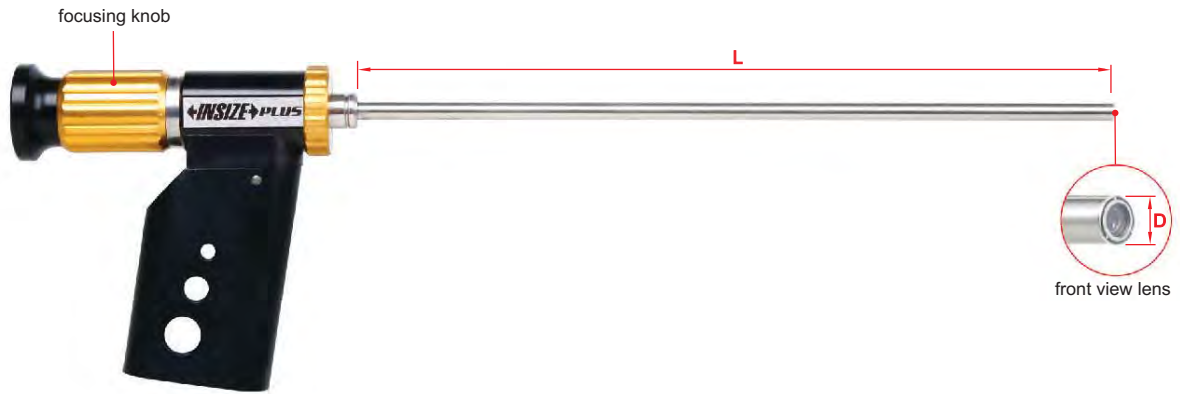
STANDARD DELIVERY

Camera	1pc
Connector	1pc
USB cable and software	1pc

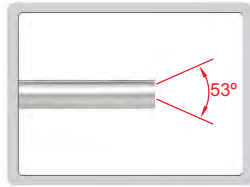


IP67
WATERPROOF

FRONT VIEW BORESCOPE (RIGID) PART NO. ISV-HF4030



adjustable focus distance:
.04"~∞



angle of view: 53°



LED light source (optional)



camera (optional)

- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature -50°F ~ 212°F
- LED light source is needed

SPECIFICATION

Diameter (D)	.16"
Length (L)	12"
Depth of view	>.6"
Dust/waterproof lens	IP67
Dimension	16.14x4.13x1.18"
Weight	.49lb

STANDARD DELIVERY

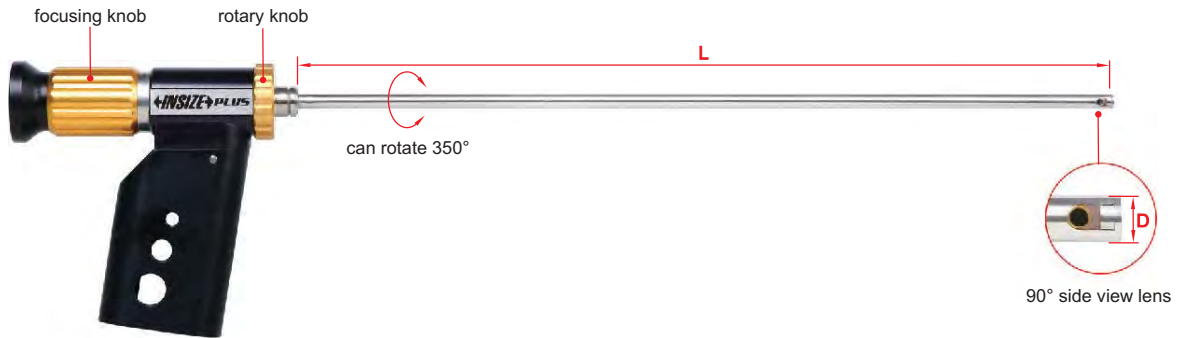
Main unit	1pc
Handle	1pc

OPTIONAL ACCESSORY

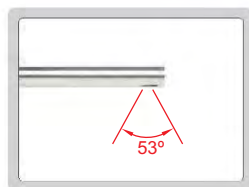
LED light source	ISV-HL3000
Camera and software	ISV-HCAM

ROTARY SIDE VIEW BORESCOPE (RIGID) PART NO. ISV-HR6032

IP67
WATERPROOF



adjustable focus distance:
.14"~∞



angle of view: 53°



observe internal wall
of small holes



LED light source (optional)



camera (optional)

- Lens can rotate 350°
- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature - 50°F ~ 212°F
- LED light source is needed

SPECIFICATION

Diameter (D)	.24"
Length (L)	12.6"
Depth of view	>.6"
Dust/waterproof lens	IP67
Dimension	16.93x4.13x1.18"
Weight	.66lb

STANDARD DELIVERY

Main unit	1pc
Handle	1pc

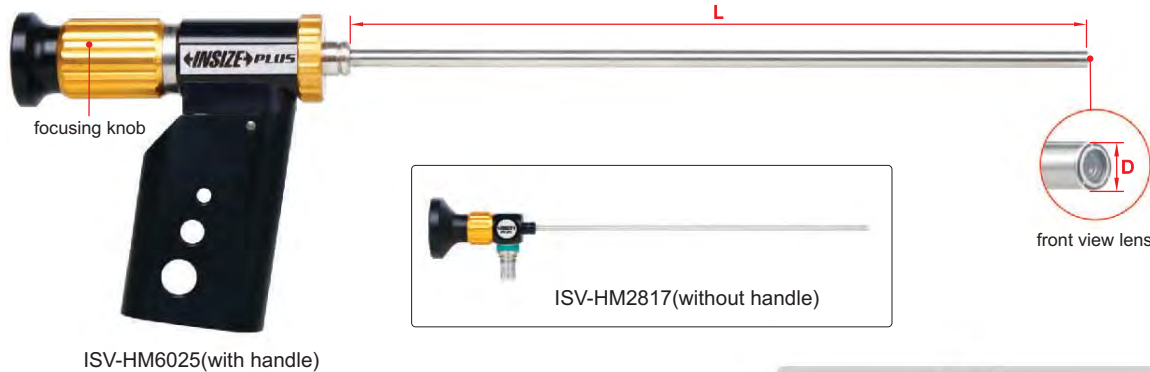
OPTIONAL ACCESSORY

LED light source	ISV-HL3000
Camera and software	ISV-HCAM



IP67
WATERPROOF

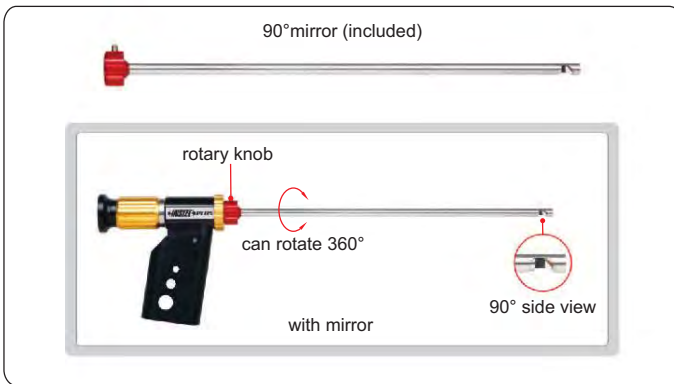
BORESCOPE WITH MIRROR (RIGID)



ISV-HM6025(with handle)

ISV-HM2817(without handle)

front view lens



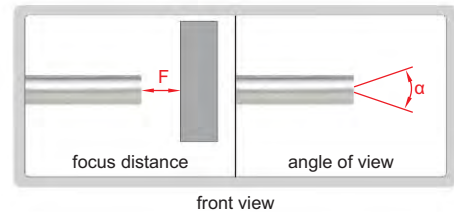
90°mirror (included)

rotary knob

can rotate 360°

with mirror

90° side view



focus distance

angle of view

front view



focus distance

angle of view

side view (with mirror)

- Front view, side view with mirror
- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature - 50°F ~ 176°F
- LED light source is needed



LED light source (optional)



camera (optional)

SPECIFICATION

Part No.	ISV-HM2817	ISV-HM4023	ISV-HM6025	ISV-HM6051
Diameter (D)	.11"	.16"	.24"	.24"
Length (L)	6.8"	9.1"	10.1"	19.2"
Focus distance (F)	.08"~∞(adjustable)	.24"~∞(adjustable)	.16"~∞(adjustable)	.12"~∞(adjustable)
Angle of view (α)	22°	22°	34°	48°
Depth of view	>.6"			
Dust/waterproof lens	IP67			
Handle	without	included	included	included
Dimension	9.25x1.30x1.18"	14.49x4.13x1.18"	14.49x4.13x1.18"	24.02x4.13x1.18"
Weight	.12lb	.55lb	.57lb	.66lb

STANDARD DELIVERY

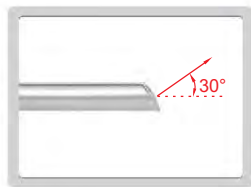
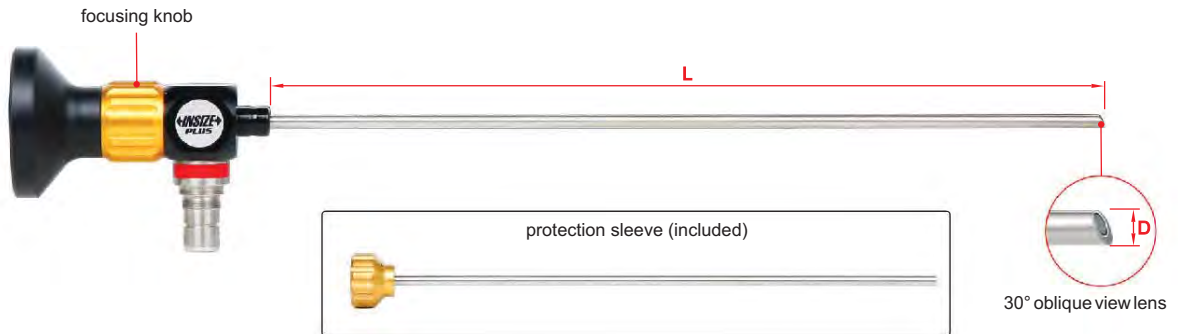
Main unit	1pc
Handle (except ISV-HM2817)	1pc
90° mirror	1pc

OPTIONAL ACCESSORY

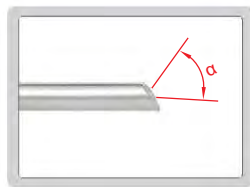
LED light source	ISV-HL3000
Camera and software	ISV-HCAM

OBLIQUE VIEW BORESCOPE (RIGID)

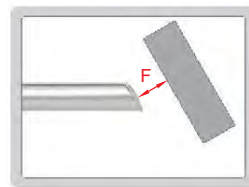
IP67
WATERPROOF



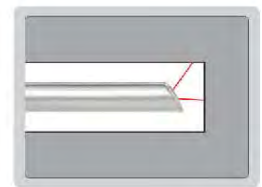
direction of view



angle of view



focus distance



observe the bottom of small blind holes



LED light source (optional)



camera (optional)

- Small diameter, used to observe small space
- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature - 50°F ~ 212°F
- Supplied with protection sleeve
- LED light source is needed

SPECIFICATION

Part No.	ISV-HP1911	ISV-HP2811	ISV-HP2817
Diameter (D)	.07"	.11"	.11"
Length (L)	4.3"	4.3"	6.8"
Focus distance (F)	.02"~∞(adjustable)	.02"~∞(adjustable)	.02"~∞(adjustable)
Direction of view	30°		
Angle of view (α)	70°	80°	80°
Depth of view	.12~1.6"		
Dust/waterproof lens	IP67		
Dimension	6.38x1.30x1.18"	8.98"x1.30x1.18"	8.98x1.30x1.18"
Weight	.12lb	.13lb	.14lb

STANDARD DELIVERY

Main unit	1pc
Protection sleeve	1pc

OPTIONAL ACCESSORY

LED light source	ISV-HL3000
Camera and software	ISV-HCAM

LED LIGHT SOURCE PART NO. ISV-HL3000



filter (optional)

- For rigid borescopes
- High LED illumination and brightness is adjustable
- For long time work with lower noise

SPECIFICATION

Brightness	470lm
Color temperature	5800K
Cooling method	fan cooling
Operating temperature	50 ~ 104°F
Working life	30000h
Power supply	12V DC, 5420mA
Dimension	6.69x7.72x3.86"
Weight	8.38lb

STANDARD DELIVERY

Main unit	1pc
92" optical fiber cable	1pc

OPTIONAL ACCESSORY

Red filter	ISV-HL3000-RED
Green filter	ISV-HL3000-GREEN
Yellow filter	ISV-HL3000-YELLOW
Blue filter	ISV-HL3000-BLUE
3500K color temperature filter	ISV-HL3000-3500K

CAMERA PART NO. ISV-HCAM



SPECIFICATION

Sensor	color CCD
Pixel	0.3M
Resolution	640x480
Frame rate	75fps
Focus distance	.71 ~ 1.38"
Software	take picture, take video, zoom in, zoom out, mirror, image rotate
Power supply	USB
Dimension	3.74x2x2"
Weight	.33lb

- For rigid borescopes
- Connected to computer USB port
- High quality CCD
- Auto-exposure, auto-gain, auto white balance
- Focus is adjustable

STANDARD DELIVERY

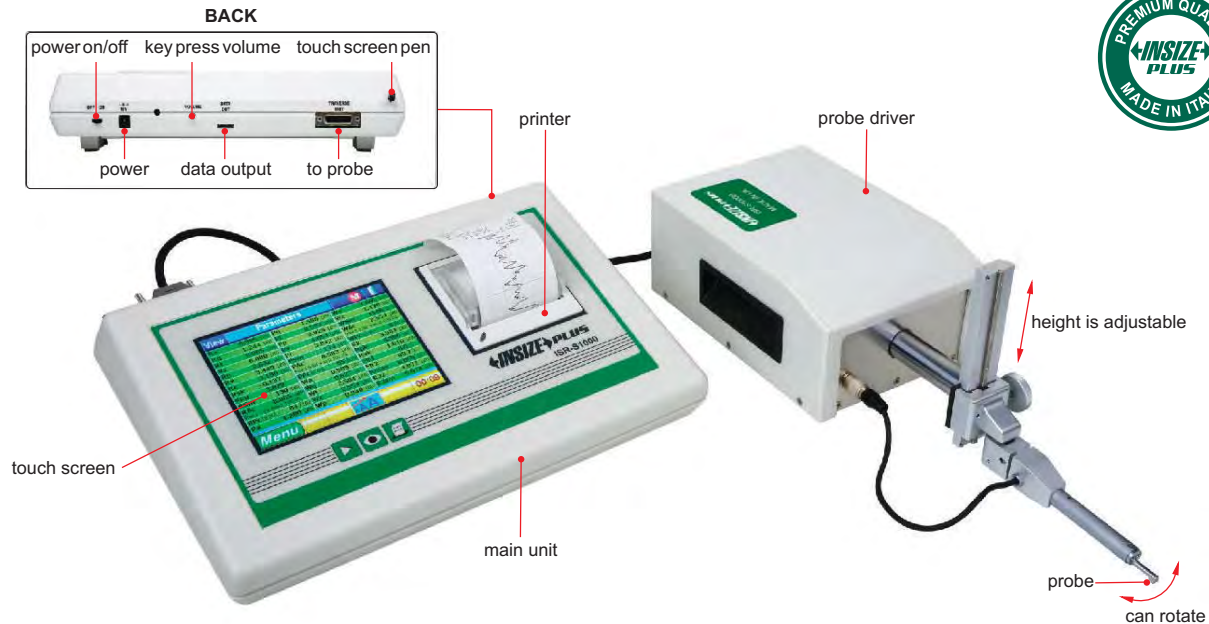
Camera	1pc
Connector	1pc
USB cable and software	1pc



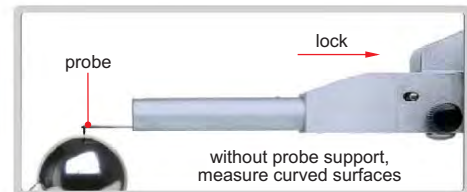
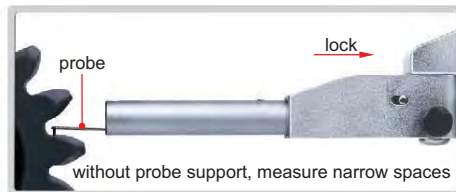
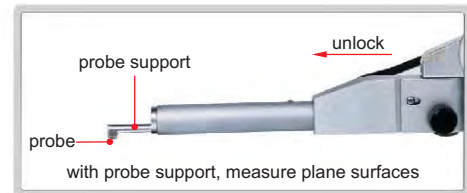
SURFACE ROUGHNESS TESTER PART NO. ISR-S1000B

CAN MEASURE WAVINESS AND
CURVED SURFACE WITH RADIUS > .197"

DATA
OUTPUT



- 48 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 39370µin, can measure grit and shot blasting
- Traverse length up to 1.97"
- The probe can rotate from -90° to +90°
- Color touch screen, display roughness values, profile and curves
- Can print roughness values, profile and curves
- Memory of maximum 1000 results
- Can set tolerance



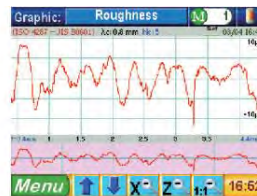
ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS



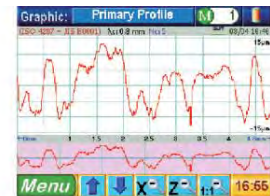
measurement result



total profile graph



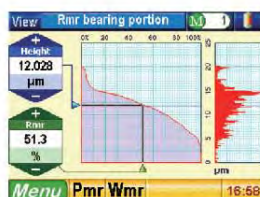
R graph



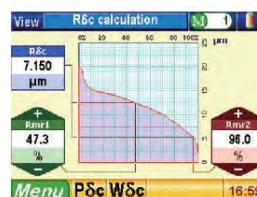
P graph



W graph



Rmr, Pmr, Wmr analysis



R&C, P&C, W&C analysis



Rel. Rmr, Rel. Pmr, Rel. Wmr analysis
To be continued

**SURFACE ROUGHNESS TESTER
PART NO. ISR-S1000B**

SPECIFICATION

Parameters	Ra, Rq, Rt, Rz, Rp, Rv, Rc, Rsk, Rku, RSm, Rδc RPC, Pa, Pq, Pt, Pp, Pv, Pc, Psm, Pδc, Ppc, Wa Wq, Wt, Wz, Wp, Wv, Wc, Wsm, Wδc, Wpc, Rk Rpk, Rvk, Mr1, Mr2, Rmax, R3z, R3zm, R, AR Rx, Aw, Rke, Rpke, Rvke, Mr1e, Mr2e	
Range	39370µin	
Accuracy	±3%	
Resolution (Ra)	.01µin	
Probe	type	inductive
	stylus radius/angle	196µin/90°
	stylus material	diamond
Measuring force	0.003ozf	
Measuring unit	µin/µm	
Cut off	.003/.01/.03/.1/.3"	
Number of cut-offs	1-19 (cut off .003/.01/.03/.1") 1-5 (cut off .3")	
Traverse speed	.02"/s or .04"/s	
Memory	1000 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (LxWxH)	12.60×8.27×3.15"	
Weight	4.85lb	

STANDARD DELIVERY

Main unit	1pc
Probe driver	1pc
Standard probe	1pc
Calibration block	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Probe	refer to next page
USB cable and software	ISR-S-SOFTWARE

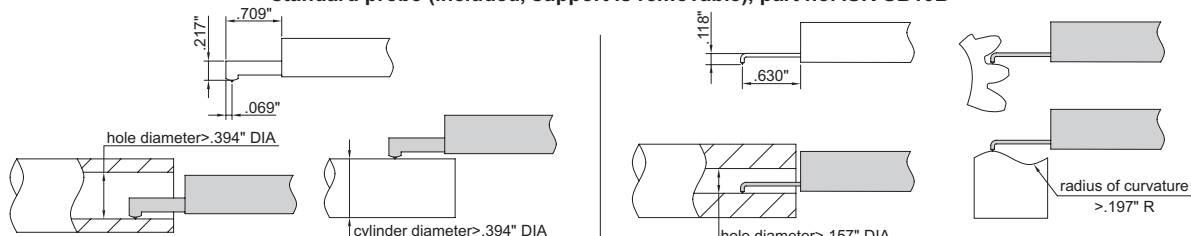
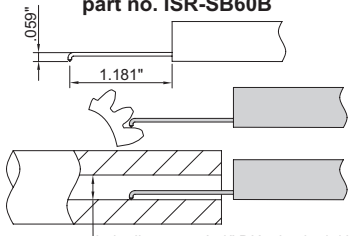
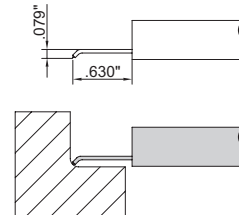
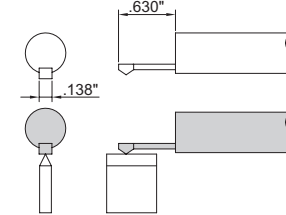
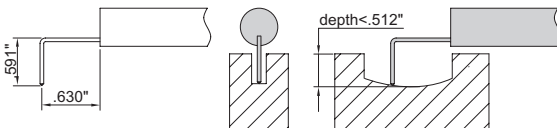
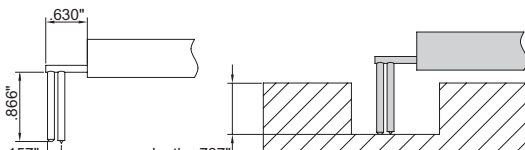
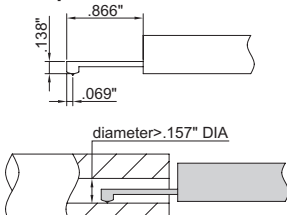
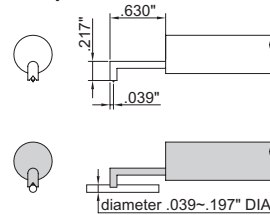
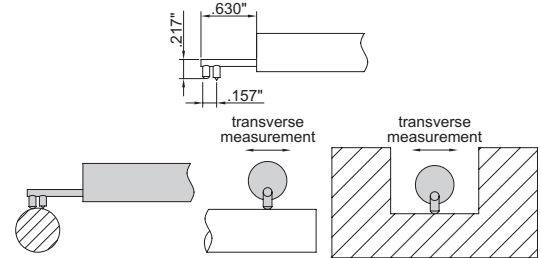
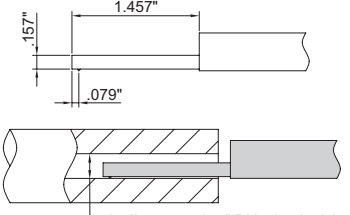
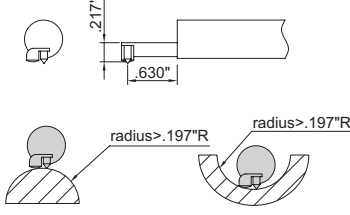
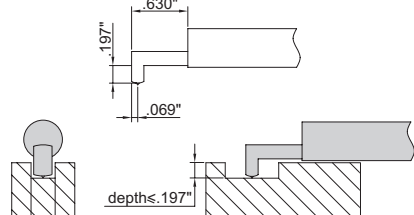
measuring software (optional)



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be continued

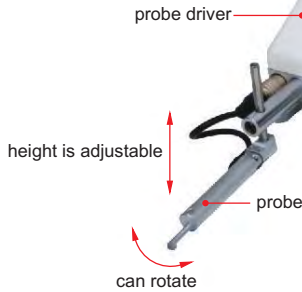
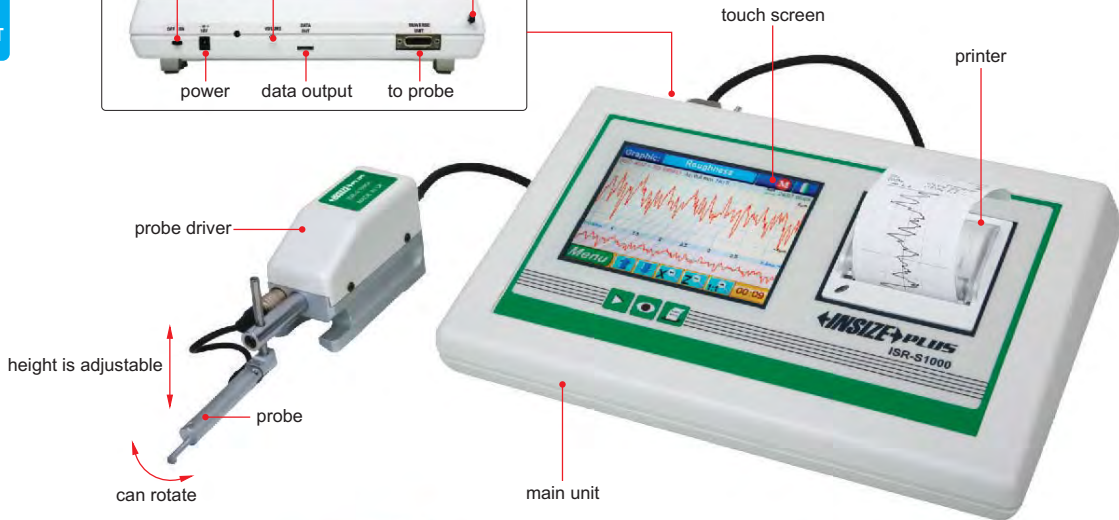
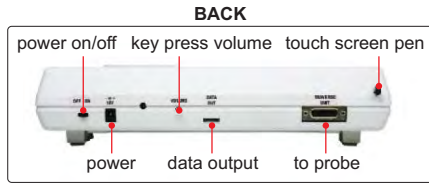
SPECIFICATION

<p>standard probe (included, support is removable), part no. ISR-SB10B</p>  <p>with probe support, measure plane surfaces, holes and cylinders with diameter >.394" DIA</p> <p>remove probe support, to measure holes with diameter >.157" DIA, can measure curved surfaces, narrow spaces and waviness</p>		
<p>small hole probe (optional), part no. ISR-SB60B</p>  <p>hole diameter >.079" DIA, depth <1.181"</p> <p>without probe support, measure holes with diameter >.079" DIA and depth <1.181", can measure curved surfaces, narrow spaces and waviness</p>	<p>internal angle probe (optional), part no. ISR-SB70B</p>  <p>without probe support, measure internal angles, can measure curved surfaces, narrow spaces and waviness</p>	<p>knife edge probe (optional), part no. ISR-SB130B</p>  <p>without probe support, measure knife edges and small rods</p>
<p>deep groove probe (optional), part no. ISR-SB150B</p>  <p>without probe support, measure curved surfaces and grooves with depth <.512", can measure curved surfaces, narrow spaces and waviness</p>		<p>deep groove probe (optional), part no. ISR-SB120B</p>  <p>measure grooves with depth <.787"</p>
<p>hole probe (optional), part no. ISR-SB30B</p>  <p>diameter >.157" DIA</p> <p>measure plane surfaces and holes with diameter >.157" DIA and depth <.787"</p>	<p>small rod probe (optional), part no. ISR-SB40B</p>  <p>diameter .039~.197" DIA</p> <p>measure small rods with diameter .039~.197" DIA</p>	<p>transverse probe (optional), part no. ISR-SB50B</p>  <p>transverse measurement for plane surfaces, cylinders and grooves</p>
<p>deep hole probe (optional), part no. ISR-SB80B</p>  <p>hole diameter >.177" DIA, depth <1.378"</p> <p>measure holes with diameter >.177" DIA and depth <1.378"</p>	<p>cylinder/hole probe (optional), part no. ISR-SB110B</p>  <p>radius >.197" R</p> <p>measure cylinders and holes with radius >.197" R</p>	<p>groove probe (optional), part no. ISR-SB20B</p>  <p>depth <.197"</p> <p>width >.157"</p> <p>measure plane surfaces and grooves</p>



SURFACE ROUGHNESS TESTER PART NO. ISR-S1000A

DATA
OUTPUT



handhold use

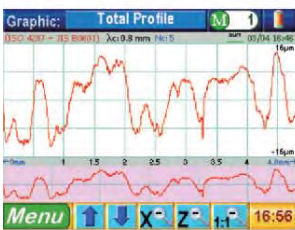


probe can be inverted

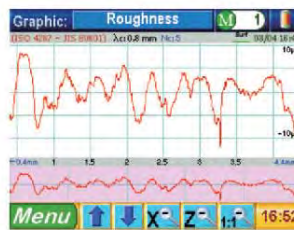
- 38 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 39370µm, can measure grit and shot blasting
- Traverse length up to .98"
- The probe can be set at 90° or 270°, for transverse measurement
- Color touch screen, display roughness values, profile and curves
- Can print roughness values, profile and curves
- Memory of maximum 1000 results
- Can set tolerance

View	Parameters	M	1
Ra	2.908 µm	RSm	391 µm
Rq	3.509 µm	RSc	20.233 µm
Rt	20.233 µm	Rmr1	0.0%
Rz	12.548 µm	RPC(0.0)	34/cm
Rp	5.039 µm	Pa	6.013 µm
Rv	7.509 µm	Pq	6.810 µm
Rc	9.310 µm	Pt	26.256 µm
Rsk	-0.105	Pp	13.265 µm
Rku	2.729	Pv	12.991 µm

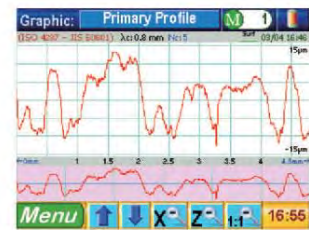
measurement result



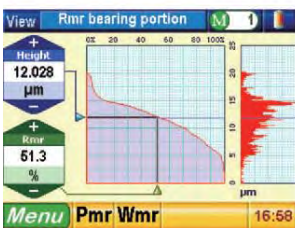
total profile graph



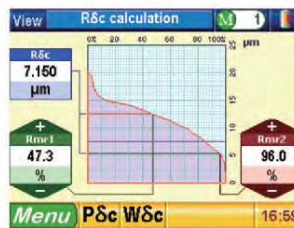
R graph



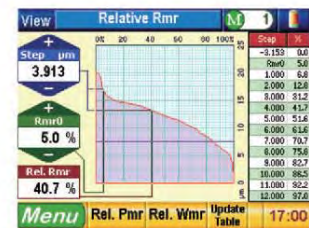
P graph



Rmr, Pmr analysis



RSc, PSc analysis



Rel. Rmr, Rel. Pmr analysis

To be continued

SURFACE ROUGHNESS TESTER PART NO. ISR-S1000A

SPECIFICATION

Parameters	Ra, Rq, Rt, Rz, Rp, Rv, Rc, Rsk, Rku, Rsm Rdc, RPC, Pa, Pq, Pt, Pp, Pv, Pc, PSm, Pdc PPc, Rk, Rpk, Rvk, Mr1, Mr2, Rmax, R3z, R3zm R, AR, Rx, Aw, Rke, Rpke, Rvke, Mr1e, Mr2e	
Range	39370µin	
Accuracy	±3%	
Resolution (Ra)	.01µin	
Probe	type	inductive
	stylus radius/angle	196µin/90°
	stylus material	diamond
Measuring force	0.003ozf	
Measuring unit	µin/µm	
Cut off	.003/.01/.03/.1/.3"	
Number of cut-offs	1-19 (cut off .003/.01/.03/.1")	
	1-9 (cut off .3")	
Traverse speed	.02"/s or .04"/s	
Memory	1000 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (L×W×H)	12.60×8.27×3.15"	
Weight	4.85lb	

STANDARD DELIVERY

Main unit	1pc
Probe driver	1pc
Standard probe	1pc
Calibration block	1pc
AC/DC adapter	1pc

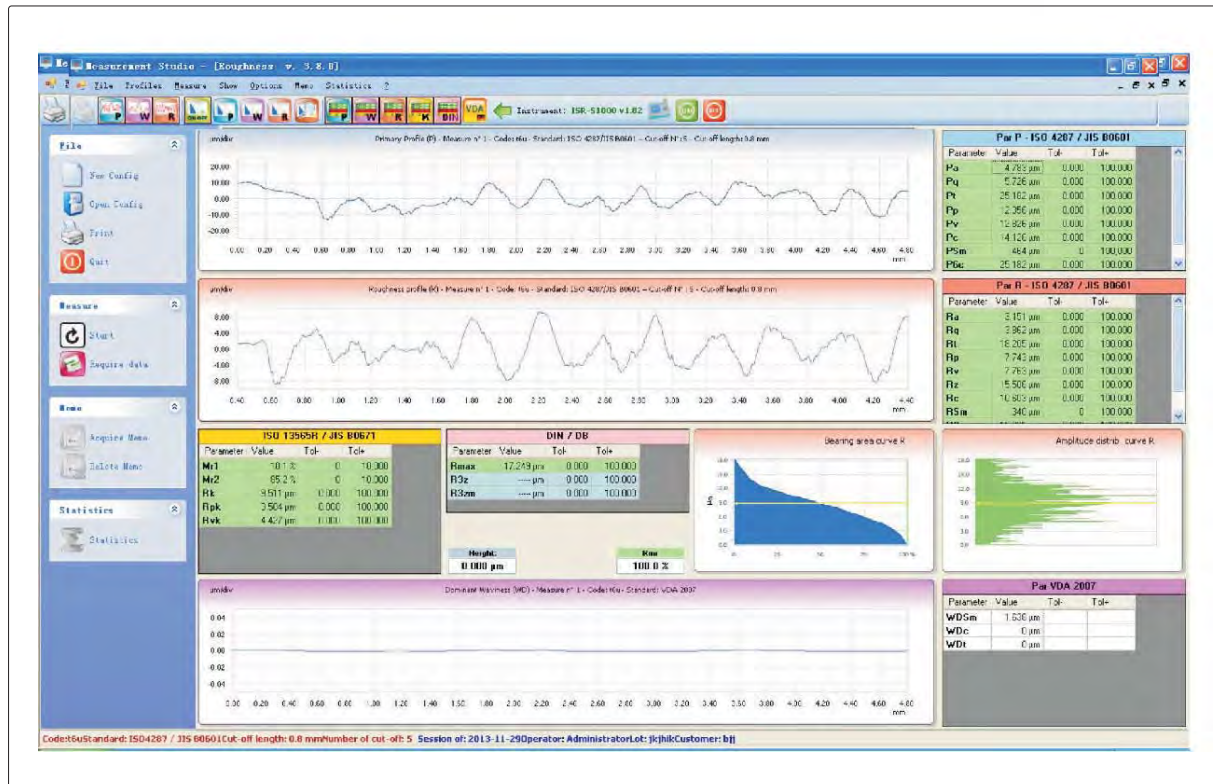
OPTIONAL ACCESSORY

Probe	refer to next page
USB cable and software	ISR-S-SOFTWARE
Vertical stand	ISR-S1000A-STAND



vertical stand (optional)

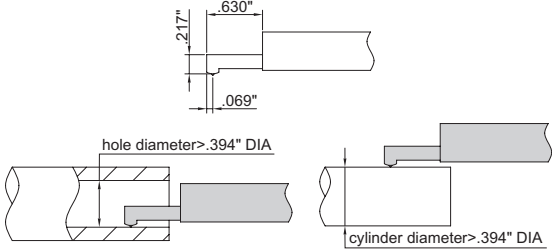
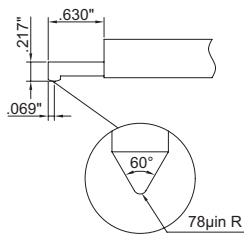
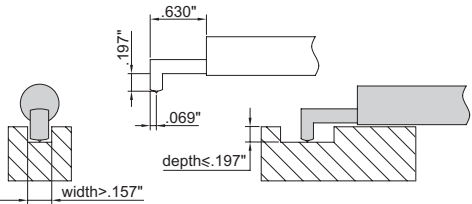
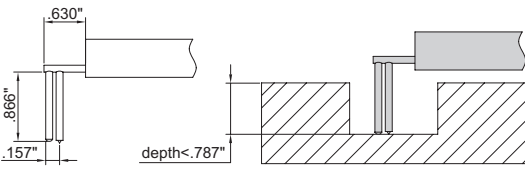
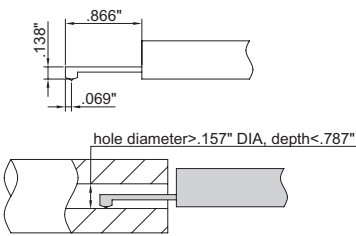
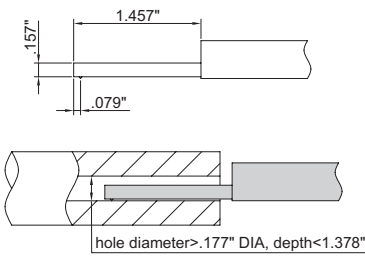
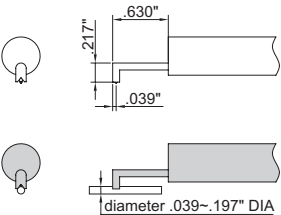
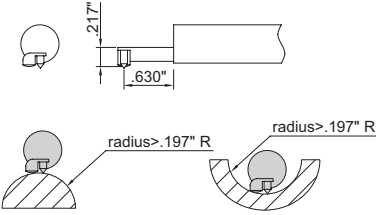
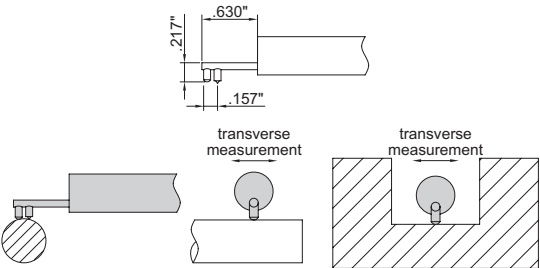
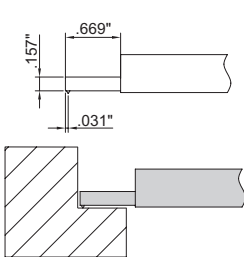
measuring software (optional)



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be continued

SPECIFICATION

<p>standard probe (included), part no. ISR-SB10A</p>  <p>measure plane surfaces, holes and cylinders with diameter >.394" DIA</p>	<p>small roughness probe (optional), part no. ISR-SB10A-R2</p>  <p>measure surfaces with small roughness</p>
<p>groove probe (optional), part no. ISR-SB20A</p>  <p>measure plane surfaces and grooves</p>	<p>deep groove probe (optional), part no. ISR-SB120A</p>  <p>measure grooves with depth <.787"</p>
<p>small hole probe (optional), part no. ISR-SB30A</p>  <p>measure plane surfaces and holes with diameter >.157" DIA and depth <.787"</p>	<p>deep hole probe (optional), part no. ISR-SB80A</p>  <p>measure holes with diameter >.177" DIA and depth <1.378"</p>
<p>small rod probe (optional), part no. ISR-SB40A</p>  <p>measure small rods with diameter .039-.197" DIA</p>	<p>cylinder/hole probe (optional), part no. ISR-SB110A</p>  <p>measure cylinders and holes with radius >.197" R</p>
<p>transverse probe (optional), part no. ISR-SB50A</p>  <p>transverse measurement for plane surfaces, cylinders and grooves</p>	<p>internal angle probe (optional), part no. ISR-SB140A</p>  <p>measure internal angles</p>

ROUGHNESS TESTER PART NO. ISR-S500

DATA
OUTPUT

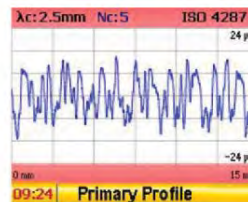


ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS

Ra	5.315 μm
Rq	6.134 μm
Rt	27.050 μm
Rp	11.574 μm

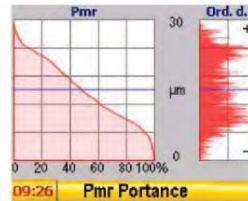
09:20 Parameters

measurement result

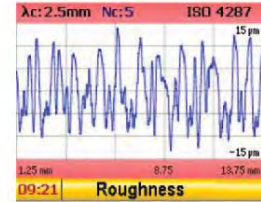


09:24 Primary Profile

P graph

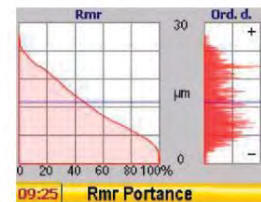


Pmr analysis



09:21 Roughness

R graph



09:25 Rmr Portance

Rmr analysis

- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 30 roughness parameters
- Can set tolerance
- Measuring range up to 23622 μm , can measure grit and shot blasting
- Traverse length up to .63"
- The probe can be set at 90° or 270°, for transverse measurement
- Color screen, display roughness values, profile and curves
- Memory of maximum 1000 results



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics



transverse measurement



adjustable stand (included)



probe cover (included), can put the small workpieces directly on the probe for measurement



printer (optional), print measuring results and roughness graph

To be continued

SPECIFICATION

Parameters	Ra, Rq, Rt, Rp, Rv, Rz, Rc, RSm, R δ c, R ρ c Pa, Pq, Pt, Pp, Pv, Pc, Psm, P δ c, P ρ c, Rk, Rpk Rvk, Mr1, Mr2, Rmax, R3z, R3zm, R, AR, Rx	
Range	23622 μ in	
Accuracy	\pm 3%	
Resolution (Ra)	.01 μ in	
Probe	type	inductive
	stylus radius/angle	196 μ in/90°
	stylus material	diamond
Measuring force	0.003ozf	
Measuring unit	μ in/ μ m	
Cut off	.01/.03/.1"	
Number of cut-offs	1-10 (cut off .01/.03")	
	1-5 (cut off .1")	
Traverse speed	.04"/s	
Memory	1000 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension(L×W×H)	4.80×2.09×2.95"	
Weight	1.30lb	

STANDARD DELIVERY

Main unit	1pc
Standard probe	1pc
Calibration block	1pc
Adjustable stand	1pc
AC/DC adapter	1pc
Probe cover	1pc



test stand (optional)

OPTIONAL ACCESSORY

Extension rod	ISR-S400-ER100
Probe	see below and next page
Printer	ISR-S500-PRINTER
USB cable and software	ISR-S-SOFTWARE
Test stand	ISR-S400-STAND

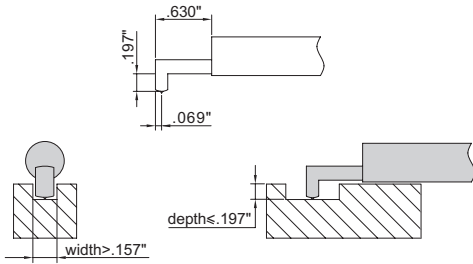
SPECIFICATION

<p>standard probe (included)</p> <p>measure plane surfaces, holes and cylinders with diameter >.394" DIA</p>	<p>small roughness probe, part no. ISR-S400-SB10R2</p> <p>measure surfaces with small roughness</p>
<p>extension rod, part no. ISR-S400-ER100</p> <p>for long hole</p>	

To be continued

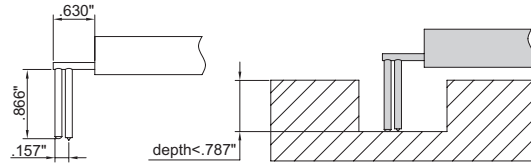
SPECIFICATION

groove probe, part no. ISR-S400-SB20



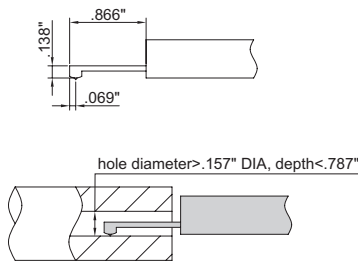
measure plane surfaces and grooves

deep groove probe, part no. ISR-S400-SB120



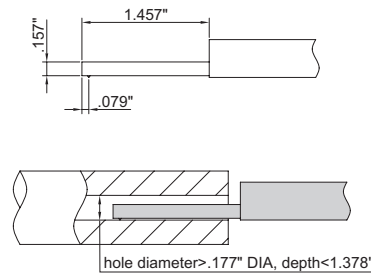
measure grooves with depth < .787"

small hole probe, part no. ISR-S400-SB30



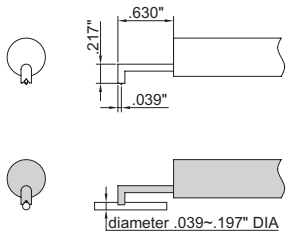
measure plane surfaces and holes with diameter > .157" DIA and depth < .787"

deep hole probe, part no. ISR-S400-SB80



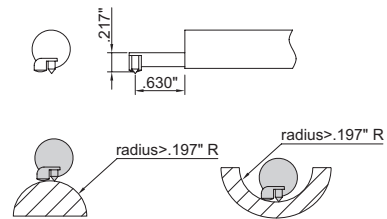
measure holes with diameter > .177" DIA and depth < 1.378"

small rod probe, part no. ISR-S400-SB40



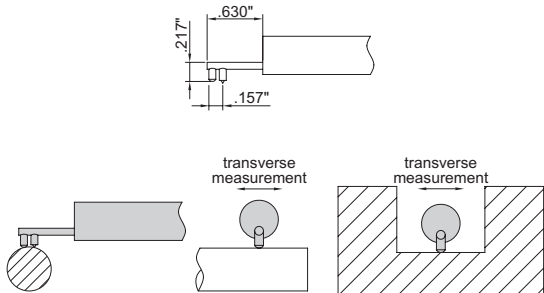
measure small rods with diameter .039-.197" DIA

cylinder/hole probe, part no. ISR-S400-SB110



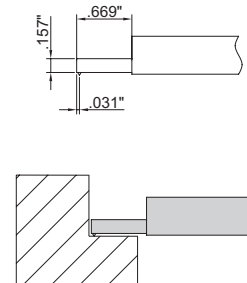
measure cylinders and holes with radius > .197" R

transverse probe, part no. ISR-S400-SB50



transverse measurement for plane surfaces, cylinders and grooves

internal angle probe, part no. ISR-S400-SB140



measure internal angles



ROUGHNESS TESTER

DATA OUTPUT



ISR-S300
(probe can't be changed)



ISR-S400
(probe can be changed)

- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 12 roughness parameters
- Can set tolerance
- Measuring range up to 15748µin, can measure grit and shot blasting
- Traverse length up to .63"
- The probe can be set at 90° or 270°, for transverse measurement
- Memory of maximum 100 results



transverse measurement



adjustable stand (included)



measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics



probe cover (included), can put the small workpieces directly on the probe for measurement



printer (optional), print measuring results and roughness graphic



test stand (optional)

To be continued

SPECIFICATION

Part No.	ISR-S300 (probe can't be changed)	ISR-S400 (probe can be changed)
Parameters	Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, Rpc, Rmr, R, AR, Rx	
Range	Ra: 0~3937 μ m, Rt: 1.97~15748 μ m	
Accuracy	\pm 3%	
Resolution (Ra)	.01 μ m	
Probe	type	inductive
	stylus radius/angle	196 μ m/90°
	stylus material	diamond
Measuring force	0.003ozf	
Measuring unit	μ m/ μ m	
Cut off	.01/.03/.1"	
Number of cut-offs	1 to 5	
Traverse speed	.04"/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension(L×W×H)	4.80×2.05×2.68"	
Weight	1.43lb	

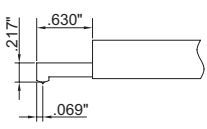
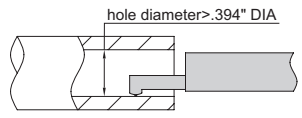
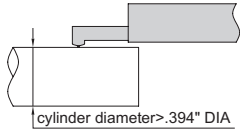
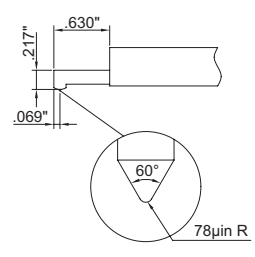
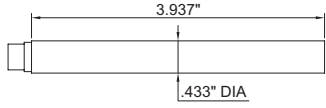
STANDARD DELIVERY

Main unit	1pc
Standard probe	1pc
Calibration block	1pc
Adjustable stand	1pc
AC/DC adapter	1pc
Probe cover	1pc

OPTIONAL ACCESSORY

Extension rod (only for ISR-S400)	ISR-S400-ER100
Probe (only for ISR-S400)	see below and next page
Printer	ISR-S400-PRINTER
USB cable and software	ISR-S-SOFTWARE
Test stand	ISR-S400-STAND

SPECIFICATION

<p>standard probe (included)</p>    <p>measure plane surfaces, holes and cylinders with diameter>.394" DIA</p>	<p>small roughness probe (for ISR-S400, optional) part no. ISR-S400-SB10R2</p>  <p>measure surfaces with small roughness</p>
<p>extension rod (for ISR-S400, optional) part no. ISR-S400-ER100</p>  <p>for long hole</p>	

To be continued

SPECIFICATION

<p>groove probe (for ISR-S400, optional) part no. ISR-S400-SB20</p> <p>measure plane surfaces and grooves</p>	<p>deep groove probe (for ISR-S400, optional) part no. ISR-S400-SB120</p> <p>measure grooves with depth <math> < .787''</math></p>
<p>small hole probe (for ISR-S400, optional) part no. ISR-S400-SB30</p> <p>measure plane surfaces and holes with diameter >math> .157''</math> DIA and depth <math> < .787''</math></p>	<p>deep hole probe (for ISR-S400, optional) part no. ISR-S400-SB80</p> <p>measure holes with diameter >math> .177''</math> DIA and depth <math> < 1.378''</math></p>
<p>small rod probe (for ISR-S400, optional) part no. ISR-S400-SB40</p> <p>measure small rods with diameter .039-.197" DIA</p>	<p>cylinder/hole probe (for ISR-S400, optional) part no. ISR-S400-SB110</p> <p>measure cylinders and holes with radius >math> .197''</math> R</p>
<p>transverse probe (for ISR-S400, optional) part no. ISR-S400-SB50</p> <p>transverse measurement for plane surfaces, cylinders and grooves</p>	<p>internal angle probe (for ISR-S400, optional) part no. ISR-S400-SB140</p> <p>measure internal angles</p>

ROUGHNESS TESTER PART NO. ISR-C100

DATA
OUTPUT



remote control (included)

- 16 roughness parameters
- With probe position indicator
- Connected with printer via bluetooth
- Can display roughness values, profile, and curve
- Memory of maximum 100 results
- Automatic power off



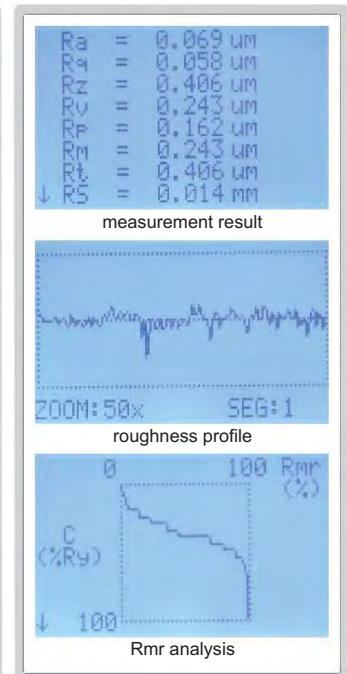
Android APP for mobile device (included), the roughness tester can be controlled by mobile phone or tablet via bluetooth, the maximum working distance is 16.4ft

measuring software for PC (included)



control the roughness tester,
display roughness values, profile and curve

screen display



measurement result

roughness profile

Rmr analysis

To be continued

Continued from previous page

probe cover (included)



can put the small workpieces directly on the probe for measurement

adjustable stand (included)



wireless printer (optional)



SPECIFICATION

Parameters	Ra, Rq, Rz, Rv, Rp, Rm, Rt, RS, Rsm R3z, R3y, Rz (JIS), Rku, Rsk, Rmax, Rpc	
Range	6299 μ m	
Accuracy	$\pm 10\%$	
Resolution (Ra)	.01 μ m	
Probe	type	inductive
	stylus radius/angle	196 μ m/90°
	stylus material	diamond
Measuring force	0.001ozf	
Measuring unit	μ m/ μ m	
Cut off	.01/.03/.1"	
Number of cut-offs	1 to 5	
Traverse speed	.02"/s, .04"/s	
Memory	100 measurement results	
Output	USB and bluetooth	
Power	built-in rechargeable battery	
Dimension (L×W×H)	5.51×2.05×1.89"	
Weight	.97lb	

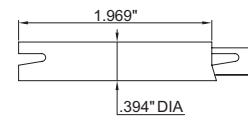
STANDARD DELIVERY

Main unit	1pc
Standard probe	1pc
Calibration block and support	1pc of each
Adjustable stand	1pc
Probe cover	1pc
USB cable and software	1pc
AC/DC adapter	1pc

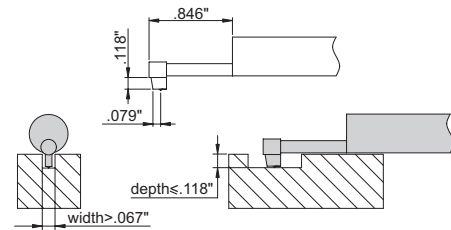
OPTIONAL ACCESSORY

Extension rod	ISR-C100-ER
Groove probe	ISR-C100-130
Deep groove probe	ISR-C100-131
Test stand	ISR-C100-STAND
Wireless printer	ISR-C100-PRINTER

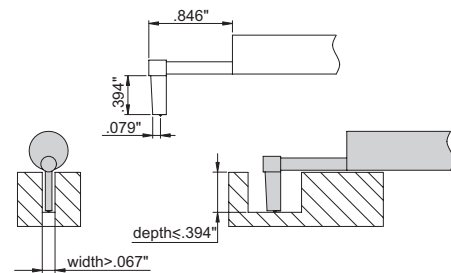
extension rod (optional), part no. ISR-C100-ER



groove probe (optional), part no. ISR-C100-130



deep groove probe (optional), part no. ISR-C100-131



test stand (optional)



the maximum workpiece height is 12.20"

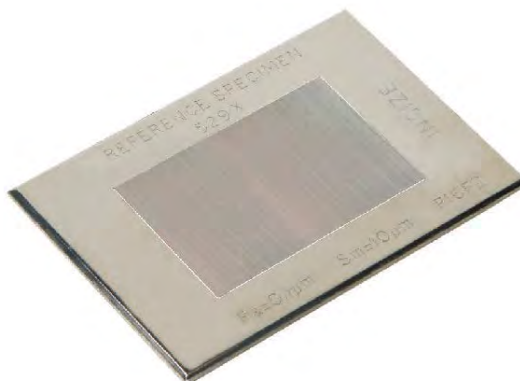
SURFACE ROUGHNESS REFERENCE SPECIMEN



MEASURING ACCURACY CAN BE IMPROVED, IF THE CALIBRATION IS MADE ON A REFERENCE SPECIMEN WITH THE ROUGHNESS VALUE CLOSE TO THE WORKPIECE TO BE MEASURED

- To calibrate roughness testers
- Meets ISO 5436-1: 2000
- Rust proof, made of pure Nickel

Part No.	Roughness (Ra)
ISR-RS525X	250µin/6.25µm*
ISR-RS526X	124µin/3.15µm*
ISR-RS527X	120µin/3.0µm*
ISR-RS528X	20µin/0.5µm*
ISR-RS529X	4µin/0.1µm* (not suitable for ISR-S300 and ISR-S400)
ISR-RS530X	40µin/1.0µm*
ISR-RS531X	14µin/0.3µm* (not suitable for ISR-S300 and ISR-S400)



ISR-RS529X

*The actual value may be slightly different

SURFACE ROUGHNESS SPECIMEN SET PART NO. ISR-CS130



- For checking, identifying and specifying the roughness by symbol
- Accuracy: +20% ~ -25%, Ra ≤ 4µin/0.1µm
Accuracy: +12% ~ -17%, Ra > 4µin/0.1µm
- Meets ISO 2632
- Rust-proof, made of pure Nickel



Machining method	Roughness (Ra)	Roughness (Rz)	Quantity
Flat lapping	2, 4, 8µin	22.1, 40, 63µin	3pcs
	0.05, 0.1, 0.2µm	0.55, 1, 1.6µm	
Reaming	16, 32, 63µin	120, 240, 400µin	3pcs
	0.4, 0.8, 1.6µm	3, 6, 10µm	
Plain grinding	2, 4, 8, 16, 32, 63µin	22.1, 40, 63, 120, 240, 400µin	6pcs
	0.05, 0.1, 0.2, 0.4, 0.8, 1.6µm	0.55, 1, 1.6, 3, 6, 10µm	
Horizontal milling	16, 32, 63, 125, 250, 500µin	100, 160, 320, 640, 1280, 2000µin	6pcs
	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm	2.5, 4, 8, 16, 32, 50µm	
Vertical milling	16, 32, 63, 125, 250, 500µin	100, 160, 320, 640, 1280, 2000µin	6pcs
	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm	2.5, 4, 8, 16, 32, 50µm	
Turning	16, 32, 63, 125, 250, 500µin	100, 160, 320, 640, 1280, 2000µin	6pcs
	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm	2.5, 4, 8, 16, 32, 50µm	

SHOT AND GRIT BLASTING SURFACE ROUGHNESS SPECIMEN

- To check the roughness of steel surfaces which have been blast cleaned before painting
- Meets ISO 8503/1
- Rust-proof, made of pure Nickel
- Quantity: 4pcs

Part No.	Machining method	Roughness (Ra)	Roughness (Rz)
ISR-CS017	Shot blasting	125, 320, 520, 720µin	768, 1920, 3120, 4320µin
ISR-CS018	Grit blasting	128, 420, 720, 1000µin	768, 2520, 4320, 6000µin



ISR-CS017



SURFACE ROUGHNESS SPECIMEN

- For checking, identifying and specifying the roughness by symbol
- Accuracy: +20% ~ -25%, Ra≤4µin
Accuracy: +12% ~ -17%, Ra>4µin
- Meets ISO 2632 (ISR-CS329 meets ISO 8503/1)
- Rust-proof, made of pure Nickel



ISR-CS315



Part No.	Machining method	Roughness (Ra)	Roughness (Rz)	Quantity
ISR-CS315	Surface grinding	1, 2, 4, 8, 16, 32, 63, 125µin	11.8, 22.1, 36.3, 69.6, 104, 186, 315, 625µin	8pcs
ISR-CS316	Cylindrical grinding	1, 2, 4, 8, 16, 32, 63, 125µin	11.9, 21.0, 35.2, 62.4, 106, 176, 309, 613µin	8pcs
ISR-CS317	Flat lapping	Criss-cross	1, 2, 4, 8µin	16, 24, 30, 50µin
		Parallel	1, 2, 4, 8µin	14, 22, 45, 60µin
ISR-CS318	Cylindrical lapping	1, 2, 4, 8µin	18, 22, 25, 49µin	4pcs
	Superfinishing	1, 2, 4, 8µin	14, 28, 40, 56µin	4pcs
ISR-CS319	Face turning	16, 32, 63, 125, 250, 500, 1000, 2000µin	76.8, 128, 246, 500, 950, 1950, 4010, 7400µin	8pcs
ISR-CS320	Cylindrical turning	16, 32, 63, 125, 250, 500, 1000, 2000µin	68, 128, 244, 488, 950, 1900, 3800, 7600µin	8pcs
ISR-CS321	End milling	16, 32, 63, 125, 250, 500, 1000, 2000µin	76.8, 153, 258, 488, 1011, 1992, 3704, 7620µin	8pcs
ISR-CS322	Reaming	16, 32, 63, 125µin	68, 128, 256, 512µin	4pcs
	Drilling	63, 125, 250, 500µin	300, 620, 1240, 2400µin	4pcs
ISR-CS323	Horizontal milling	16, 32, 63, 125, 250, 500, 1000, 2000µin	72, 147, 265, 512, 1025, 2120, 3900, 7880µin	8pcs
ISR-CS325	Shaping (planing)	32, 63, 125, 250, 500, 1000, 2000, 4000µin	154, 268, 488, 1009, 1950, 3998, 7603, 14440µin	8pcs
ISR-CS326	Linishing (belt sanding)	4, 8, 16, 32, 63, 125µin	36, 62, 135, 297, 740, 1240µin	6pcs
ISR-CS328	Vertical grinding	8, 16, 32, 63, 125, 250µin	44, 140, 246, 351, 888, 1632µin	6pcs
ISR-CS329	Grit blasting	128, 420, 720, 1000µin	768, 2520, 4320, 6000µin	4pcs
	Shot blasting	128, 320, 520, 720µin	768, 1920, 3120, 4320µin	4pcs
ISR-CS331	Spark erosion (EDM)	16, 32, 63, 125, 250, 500, 1000, 2000µin	100, 180, 288, 568, 988, 2048, 4200, 7840µin	8pcs
ISR-CS333	Hand filing	16, 32, 63, 125, 250µin	120, 224, 496, 900, 2440µin	5pcs
ISR-CS334	Castings	32, 63, 125, 250, 500, 1000, 2000µin	128, 320, 640, 1280, 2240, 4480, 9000µin	7pcs
ISR-CS335	Honing	2, 4, 8, 16, 32, 63µin	12, 22, 40, 80, 168, 360µin	6pcs
ISR-CS336	Polishing	.5, 1, 2, 4, 8µin	12, 14, 27, 29, 61µin	5pcs

COATING THICKNESS GAGE PART NO. ISO-2000FN

SUITABLE FOR SMALL SURFACES, CONCAVE
OR CONVEX SURFACES AFTER CALIBRATION



main unit
ISO-2000FN



magnetic induction probe Fe (optional)
ISO-2000FN-FE



eddy current probe NFe (optional)
ISO-2000FN-NFE

- Suitable for small surfaces, concave or convex surfaces after calibrated
- Magnetic induction probe (Fe) is to measure the thickness of non-magnetic coating on magnetic substrate
Substrate: iron, steel, magnetic stainless steel (does not include non-magnetic stainless steel)
Coating: zinc, copper, chrome-tin, plastic powder, paint (does not include nickel)
- Eddy current probe (NFe) is to measure the thickness of non-conductive coating on non-magnetic metal substrate
Substrate: copper, aluminum, zinc, non-magnetic stainless steel
Coating: plastic powder, paint, anodizing



standard foil
(included)

SPECIFICATION

Measuring range	eddy current probe (NFe)	0~80mils
		0~32mils
Accuracy		$\pm(0.06+2\%L)$ mils L is measuring thickness in mils
Resolution		0.01mils (range<10mils)
		0.1mils (range \geq 10mils)
Repeatability		0.06mils (range<10mils)
		0.1mils (range \geq 10mils)
Measuring mode		continuous or single
Calibration mode		four points calibration
Minimum substrate thickness		magnetic induction probe (Fe): 8mils, eddy current probe (NFe): 2mils
Minimum measuring area		.4x.4", calibration should be made on workpiece without coating, test stand (optional) is recommended in order to have same position for calibration and measurement
Power supply		2x1.5V AA batteries
Dimension of main unit		4.80x2.56x.87"
Weight of main unit		.33lb

STANDARD DELIVERY

Main unit	1pc
Zero calibration block for Fe probe	1pc
Zero calibration block for NFe probe	1pc
Standard foil	7pcs
Battery (AA)	2pcs

OPTIONAL ACCESSORY

Magnetic induction probe (Fe)	ISO-2000FN-FE
Eddy current probe (NFe)	ISO-2000FN-NFE
Test stand	ISO-2000FN-STAND

COATING THICKNESS GAGE PART NO. ISO-3500FN



FOR MAGNETIC AND
NON-MAGNETIC MATERIALS

ATTENTION: NOT SUITABLE
FOR ROUGH SURFACES



- Integrated with magnetic-induction probe (Fe) and eddy current probe (Nfe), switch to the suitable probe automatically according to the material to be measured
- Magnetic induction probe (Fe) is to measure the thickness of non-magnetic coating on magnetic substrate
Substrate: iron, steel, magnetic stainless steel (does not include non-magnetic stainless steel)
Coating: zinc, copper, chrome-tin, plastic powder, paint (does not include nickel)
- Eddy current probe (NFe) is to measure the thickness of non-conductive coating on non-magnetic metal substrate
Substrate: copper, aluminum, zinc, non-magnetic stainless steel
Coating: plastic powder, paint, anodizing
- Set zero without calibration foil
- Power off automatically (40 seconds without operation)

SPECIFICATION

Measuring Range	0.4~140mils	
Accuracy	$\pm(2\%L+0.04)$ mils (range<40mils) $\pm(3.5\%L)$ mils (range \geq 40mils)	L is measuring thickness in mils
Resolution	0.01mils (range<10mils)	
	0.1mils (range 10~100mils)	
	1mils (range \geq 100mils)	
Repeatability	0.06mils (range<10mils)	
	0.1mils (range10~100mils)	
	1mils (range \geq 100mils)	
Measuring mode	continuous and single	
Calibration mode	zero calibration	
Minimum substrate thickness	magnetic-induction: 8mils, eddy current: 2mils	
Minimum measuring area	.4x.4"	
Minimum curvature radius of workpiece	concave	1"
	convex	.02"
Power supply	9V battery	
Dimension	4.65x2.28x1.50"	
Weight	.33lb	

STANDARD DELIVERY

Main unit	1pc
Zero calibration block for Fe probe	1pc
Zero calibration block for NFe probe	1pc
9V battery	1pc

OPTIONAL ACCESSORY

Standard foil (for checking accuracy) 20 μ m/0.8mils, 50 μ m/2mils, 100 μ m/4mils, 250 μ m/10mils	ISO-3500FN-FOIL
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COATING THICKNESS GAGE PART NO. ISO-1500F

ATTENTION:
BASIC MODEL

MEASURE NON-MAGNETIC COATING
ON MAGNETIC SUBSTRATE



zero calibration block (included)



calibration foil (included)



printer (optional)

- To measure the thickness of any non-magnetic coating on magnetic substrate
substrate: steel, iron, magnetic stainless steel (non-magnetic stainless steel is not included)
coating: zinc, copper, chrome, tin, plastic, paint (nickel is not included)
- Low and high limits with judgement
- Calculate average value automatically

SPECIFICATION

Measuring range	0~60mils	
Accuracy	±(2%L+0.08)mils L is measuring thickness in mils	
Resolution	0.1mils	
Repeatability	±(1%L)mils L is measuring thickness in mils	
Measuring mode	continuous and single	
Calibration mode	zero calibration, one point calibration, two points calibration	
Minimum substrate thickness	20mils	
Minimum measuring area	.4×.4"	
Minimum curvature radius of workpiece	concave	1"
	convex	.02"
Output	USB	
Memory	1200	
Power supply	3×1.5V AAA batteries (power off automatically)	
Dimension	3.46×2.64×1.18"	
Weight	.26lb	

STANDARD DELIVERY

Main unit	1pc
Zero calibration block	1pc
Calibration foil (50µm/2mils, 100µm/4mils, 500µm/20mils, 1000µm/40mils, 1500µm/60mils)	1set
1.5V AAA battery	3pcs
Software and USB cable	1pc

OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
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DATA
OUTPUT

ULTRASONIC THICKNESS GAGE THROUGH COATING PART NO. ISU-300D*

CAN PENETRATE NON-METALLIC COATING AND
MEASURE THE THICKNESS OF METAL SUBSTRATE



- Two measuring modes, Echo-Echo (E-E) and Transmit-Echo (T-E):
 - E-E is applicable for non-metallic coating (such as paint, plastic resin, etc.) on metal substrate, can penetrate coating and measure the thickness of substrate
 - T-E is to measure the thickness of material without coating, such as metal, plastic, glass nylon resin, ceramics, rubber, ice, etc.
- Low and high limits with judgment
- Average calculation of maximum 9 readings
- Memory of maximum 500 readings

Transmit-Echo mode (T-E)



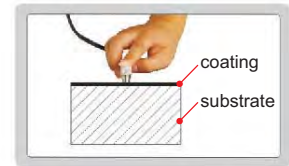
couplant (included)



transducer ISU-T12 (optional)



Echo-Echo mode (E-E)



transducer ISU-T06 (optional)



transducer ISU-T13 (optional)



SPECIFICATION

Measuring range	E-E mode: coating thickness 0~.04", substrate thickness .16~.98"
	T-E mode: substrate thickness .03~11.81"
Resolution	.001" (range < 10") .01" (range ≥ 10")
Repeatability	.001" (range < 4") .004" (range 4-10") .01" (range ≥ 10")
Accuracy	±.002" (range < .4") ±(.002+H/1000)" (range .4~4") ±H/333" (range ≥ 4") H is the thickness to be measured in inch
Velocity	.039~.394"/μs
Power supply	2×1.5V AAA batteries
Dimension	4.57×2.52×1.06"
Weight	.49lb

STANDARD DELIVERY

Main unit	1pc
Transducer ISU-T07	1pc
Battery (AAA)	2pcs
Couplant (for ISU-T06, ISU-T07, ISU-T12)	1 bottle
USB cable and software disc	1pc

OPTIONAL ACCESSARY

Transducer	ISU-T06, ISU-T12, ISU-T13
Couplant (for ISU-T13)	ISU-HT5-COULPLANT

SPECIFICATION OF TRANSDUCERS

Part No.	Mode	Frequency	Diameter (d)	Measuring range	Minimum size of pipe for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T07	T-E E-E	5.0MHz	.43" DIA	T-E mode: .03~11.81" E-E mode: .16~.98"	T-E mode: .79×.05" E-E mode: .79×.16"	<140°F	general use
ISU-T06	T-E	7.5MHz	.33" DIA	.03~1.97"	.59×.05"	<140°F	for thin material
ISU-T12	T-E	2.0MHz	.64" DIA	.12~13.78"	1.18×.16"	<140°F	for casting iron
ISU-T13	T-E	5.0MHz	.51" DIA	.12~3.94"	.98×.12"	<662°F	for high temperature

* Supplied with manufacturer inspection certificate

ULTRASONIC THICKNESS GAGE PART NO. ISU-250C*

DATA
OUTPUT



- Measure the thickness from one side of object, suitable for pipe, tank, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, rubber, ice
- Low and high limits with judgement
- Average calculation of maximum 9 readings
- Memory of maximum 5000 readings with location number



couplant (included)



transducer ISU-T06 (optional)



transducer ISU-T12 (optional)



transducer ISU-T13 (optional)

SPECIFICATION

Resolution	.001" (range<10")
	.01" (range≥10")
Repeatability	.001" (range<4")
	.004" (range 4~10")
Accuracy	±.002" (range<4")
	±(.002+H/1000)" (range .4~4")
	±H/333" (range≥4")
	H is the thickness to be measured in inch
Velocity	.039-.394"/μs
Power supply	2×1.5V AAA batteries
Dimension	2.52×4.57×1.06"
Weight	.49lb

STANDARD DELIVERY

Main unit	1pc
Transducer ISU-T08	1pc
Battery (AAA)	2pcs
Couplant (for ISU-T06, ISU-T08, ISU-T12)	1 bottle
USB cable and software disc	1pc of each

OPTIONAL ACCESSORY

Transducer	ISU-T06, ISU-T12, ISU-T13
Couplant (for ISU-T13)	ISU-HT5-COUPPLANT

SPECIFICATION OF TRANSDUCERS

Part No.	Frequency	Diameter (d)	Measuring range	Minimum size of pipe for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T08	5.0MHz	.43" DIA	.03 - 11.81"	.79 x .05"	<140°F	general use
ISU-T06	7.5MHz	.33" DIA	.03 - 1.97"	.59 x .05"	<140°F	for thin material
ISU-T12	2.0MHz	.64" DIA	.12 - 13.78"	1.18 x .16"	<140°F	for casting steel
ISU-T13	5.0MHz	.51" DIA	.12 - 3.94"	.98 x .12"	<662°F	for high temperature

* Supplied with manufacturer inspection certificate

DATA
OUTPUT

ATTENTION:
BASIC MODEL

ULTRASONIC THICKNESS GAGE PART NO. ISU-200D*



- Measure the thickness from one side of object, suitable for pipe, tank, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, rubber, ice
- Low and high limits with judgement
- Memory of maximum 500 readings

SPECIFICATION

Resolution	.001" (range<10")
	.01" (range≥10")
Accuracy	±.002" (range<.4")
	±(.0004+0.5%H)" (range≥.4") H is the thickness to be measured in inch
Velocity	.039-.394"/μs
Power supply	3×AAA batteries
Dimension	5.94×2.76×.94"
Weight	.44lb

STANDARD DELIVERY

Main unit	1pc
Transducer ISU-200D-N05	1pc
Couplant	1 bottle
USB cable and software	1pc

OPTIONAL ACCESSORY

Transducer	ISU-200D-N02
	ISU-200D-N07
	ISU-200D-W05
	ISU-200D-HT5

SPECIFICATION OF TRANSDUCERS

Part No.	Frequency	Diameter (d)	Measuring range	Minimum size of pipe for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-200D-N05	5.0MHz	.47" DIA	.03~11.81"	.98×.12"	<140°F	general use
ISU-200D-N02	2.0MHz	.67" DIA	.08~15.75"	1.18×.16"	<140°F	for casting steel
ISU-200D-N07	7.5MHz	.31" DIA	.03~1.57"	.59×.05"	<140°F	for thin material
ISU-200D-W05	5.0MHz	.39" DIA	.03~9.06"	.79×.05"	<140°F	for wall thickness
ISU-200D-HT5	3.0MHz	.59" DIA	.12~3.94"	.98×.12"	<572°F	for high temperature

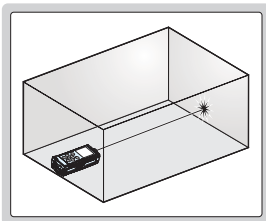
* Supplied with manufacturer inspection certificate

LASER DISTANCE METER PART NO. ISN-L70

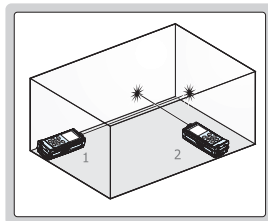
IP52
WATERPROOF



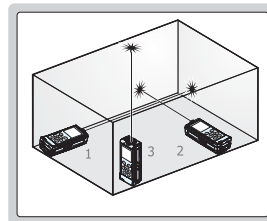
- Large display with backlight
- Unit: in, ft, m
- Distance, area, volume and height measurement
- With continuous measuring mode to track maximum and minimum value
- Automatic power-off: laser 30s, main unit 180s



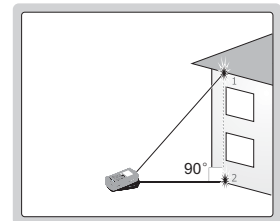
distance measurement



area measurement



volume measurement



height measurement

SPECIFICATION

Measuring range	2"~229ft
Accuracy	±.06"
Resolution	.01"/0.01ft
Measuring speed	0.5 second
Dust/waterproof	IP52
Laser type	650nm, Class II, <1mW
Beam size	.98"@1200"
Memory	20 measuring data
Power supply	2xAA batteries, for 10000 measurements
Dimension (L×W×H)	4.33×1.77×1.18"
Weight	.29lb

STANDARD DELIVERY

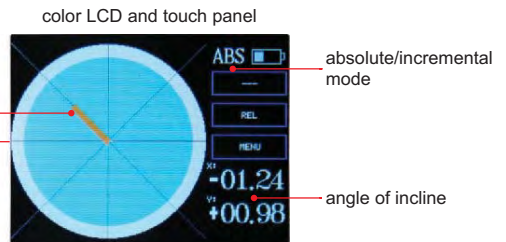
Main unit	1pc
Battery (AA)	2pcs
Strap	1pc
Carrying bag	1pc

DATA
OUTPUT

ELECTRONIC LEVEL



ISE-2DT



direction of incline

absolute/incremental mode

angle of incline

- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors

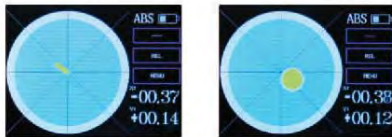


within the tolerance (green)

slightly out of the tolerance (yellow)

seriously out of the tolerance (red)

- To show the incline with line or bubble



LED light

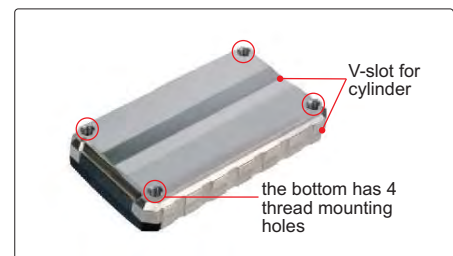
charging and data output



horizontal use

vertical use

lie-down use



V-slot for cylinder

the bottom has 4 thread mounting holes

SPECIFICATION

Part No.	ISE-2DT
Measuring range	±30°
Resolution	0.01° (= .002in/ft)
Accuracy	±0.03° (range 0~3°) ±0.05° (range >3°)
Power supply	rechargeable battery
Dimension	4.53×2.60×.91"
Weight	0.49lb

STANDARD DELIVERY

Main unit	1pc
USB cable	1pc

OPTIONAL ACCESSORY

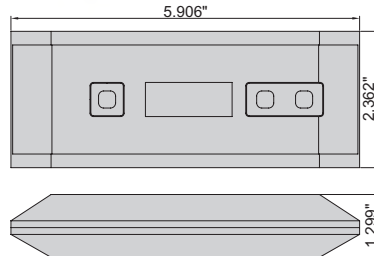
Software	ISE-2DT-SOFTWARE
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ELECTRONIC LEVEL AND PROTRACTOR

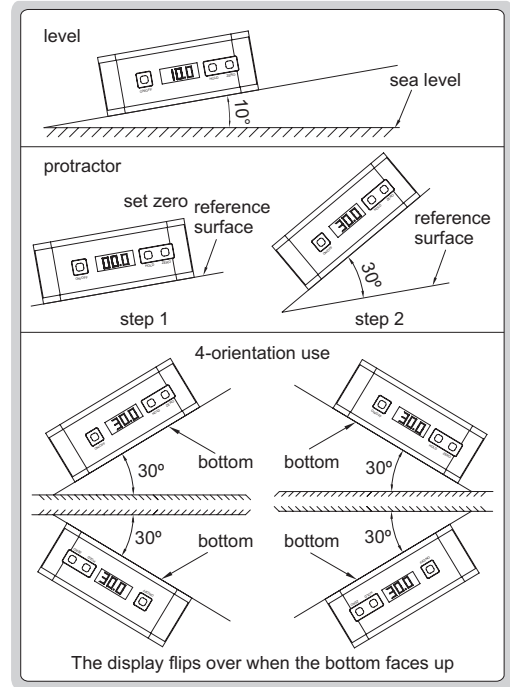


2173-360

- Aluminum frame
- Magnetic bottom with V-groove for shafts
- Zero setting can be made on any plain surfaces
- Buttons: ON/OFF, ZERO, HOLD (keep the reading)
- CR2032 battery
- Automatic power off



Part No.	Range	Resolution	Accuracy
2173-360	0-360° (90°x4)	0.1° (=0.021in/ft)	0° and 90°: ±0.1°; others: ±0.2°



ELECTRONIC LEVEL AND PROTRACTOR

IP54
WATERPROOF

ABSOLUTE LEVEL

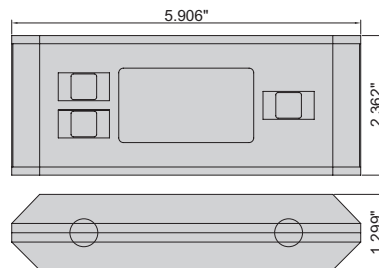
BACKLIGHT

BUZZER ALARM AT 0° AND 90°

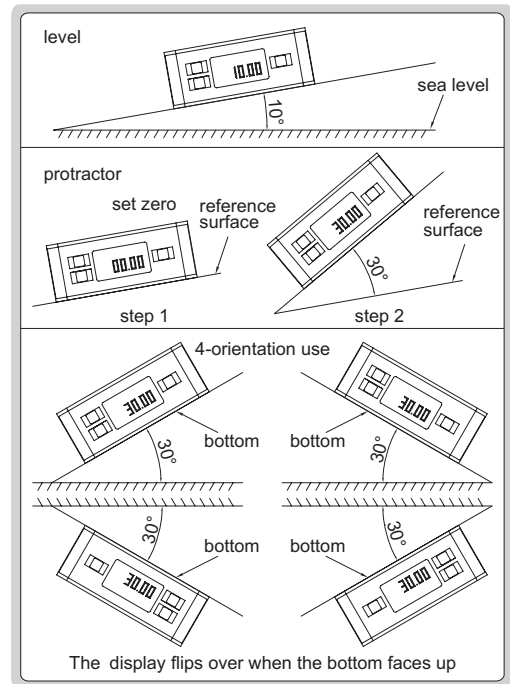


2179-360

- IP54 dust/waterproof
- Aluminum frame
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm, unit (in/ft, %, mm/m), backlight
- Two AAA batteries
- Automatic power off



Part No.	Range	Resolution	Accuracy
2179-360	0-360° (90°x4)	0.05° / .125in/ft	0° and 90°: ±0.1°; others: ±0.2°



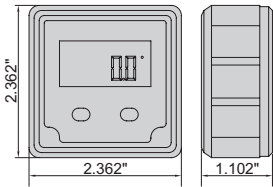
BACKLIGHT

ABSOLUTE LEVEL

MAGNETIC BOTTOM

ELECTRONIC LEVEL AND PROTRACTOR

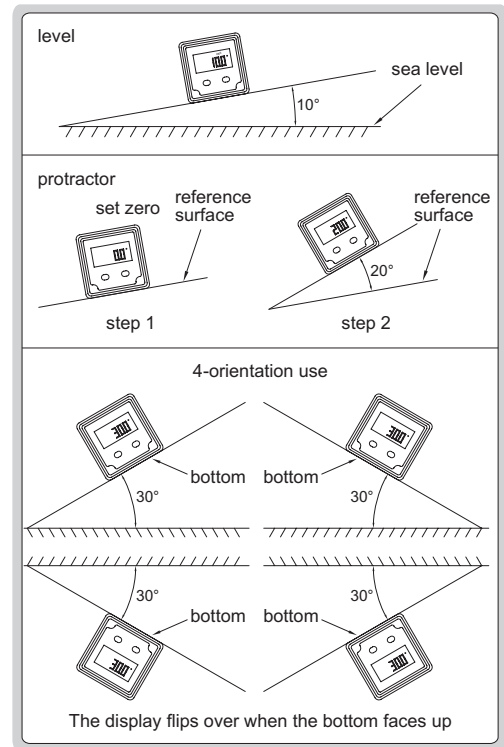
DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP



2170-1

- Aluminum frame
- Magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 minutes after use
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, ZERO, absolute and incremental measurement
- One AAA battery
- Automatic power off in 5 minutes

Part No.	Range	Resolution	Accuracy
2170-1	4x90°	0.1°(=.021in/ft)	at 0°and 90°: ±0.1°; others: ±0.2°



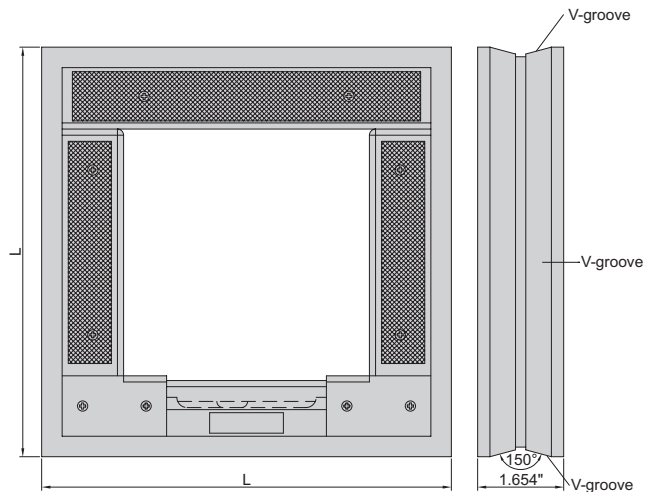
4906-200

- No need to set zero before use
- Three V-grooves for shafts (shafts diameter .76~4.56")
- With longitudinal vial

Part No.	Size (LxL)	Sensitivity
4906-150	6x6"	.00024in/ft (=0.001°)
4906-200	8x8"	.00024in/ft (=0.001°)

FRAME LEVEL

NO NEED TO SET ZERO BEFORE USE



BLOCK LEVEL



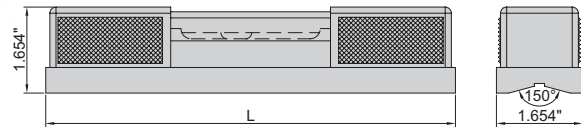
NO NEED TO SET ZERO BEFORE USE

- No need to set zero before use
- V-groove on bottom for shafts (shafts diameter .76~4.56")
- With longitudinal vial



4905-200

Part No.	Length (L)	Sensitivity
4905-160	6"	.00024in/ft (=0.001°)
4905-200	8"	.00024in/ft (=0.001°)
4905-300	12"	.00024in/ft (=0.001°)



SHORT LEVEL

NO NEED TO SET ZERO BEFORE USE

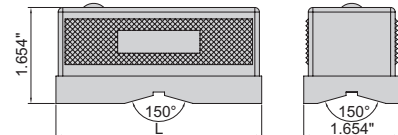
- No need to set zero before use
- Suitable for small spaces like crankshaft
- Longitudinal and transverse V-grooves on bottom for shafts (shafts diameter .76~4.56")
- With transverse vial



4907-90



Part No.	Length(L)	Sensitivity
4907-90	3.5"	.0012in/ft (=0.0057°)



MINI LEVEL

NO NEED TO SET ZERO BEFORE USE

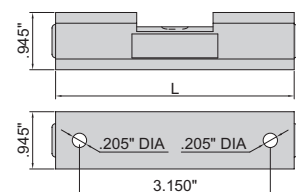
- No need to set zero before use
- With mounting holes (for M5 screw)



4908-100



Part No.	Length(L)	Sensitivity
4908-100	3.9"	.0012in/ft (=0.0057°)



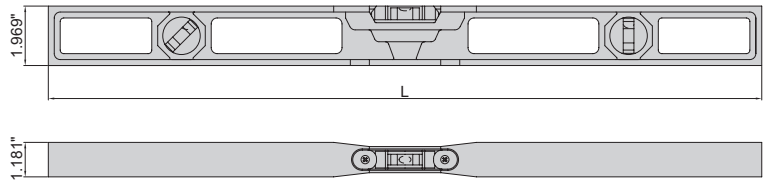
ALUMINUM ALLOY LEVEL



4911-600

- Die casting aluminum alloy frame
- With three vials: 180°, 90° and 45°
- Zero position of vial 180° can be set

Part No.	Length (L)	Accuracy
4911-400	16"	.009in/ft
4911-600	24"	.009in/ft
4911-800	32"	.009in/ft



ABSOLUTE
LEVEL

BACKLIGHT

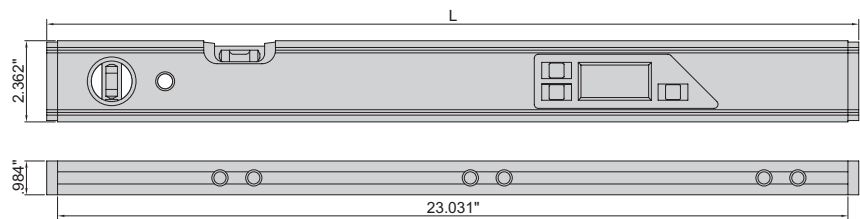
BUZZER ALARM
AT 0° AND 90°

ELECTRONIC LEVEL



4910-600

- With transverse and longitudinal vials
- Used as level and protractor
- Aluminum frame
- Magnetic bottom
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm, unit (in/ft, %, mm/m) conversion, backlight
- The display flips over when the bottom faces up
- Two AAA batteries
- Automatic power off



Part No.	Length (L)	Range	Resolution	Accuracy
4910-600	24"	0-360° (90°x4)	0.1° / .125in/ft	0° and 90°: ±0.1°; others: ±0.2°

HIGH PRECISION LINEAR GAGE AND DISPLAY UNIT

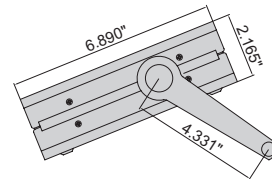
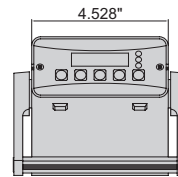
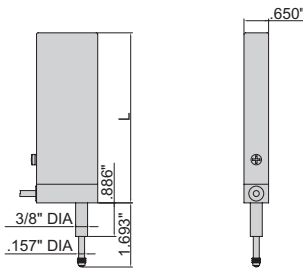
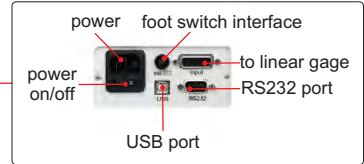


7108-10E

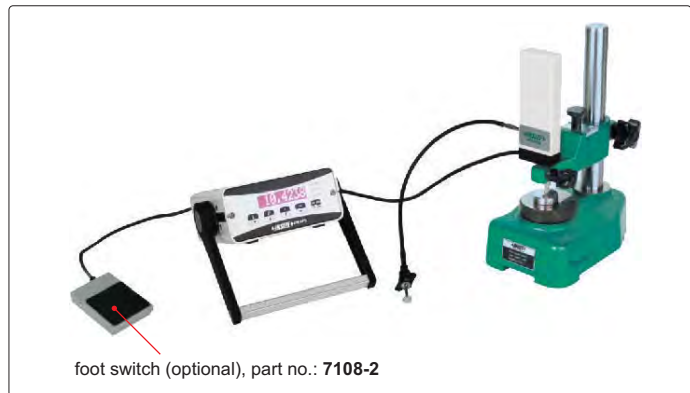


7108-1

BACK OF DISPLAY UNIT



APPLICATION



foot switch (optional), part no.: 7108-2

- Linear gage:
 - Incremental glass scale sensor, with built-in roller bearing, high precision
 - With lifting lever, for quick measurement
- Display unit:
 - Set zero or output data through foot switch (optional)
 - Measuring direction can be changed
 - The reading can be preset

LINEAR GAGE SPECIFICATION

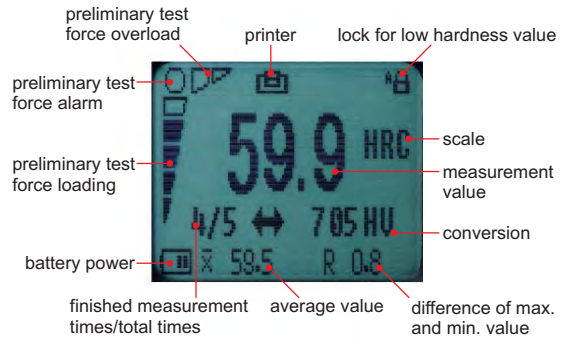
Part No.	7108-10E	7108-30E
Measuring range	.39"	1.18"
Resolution	.000001"	
Accuracy	(19.7+50L/3) μ m, L is measuring length in inch	
Dust/waterproof	IP50	
Output signal	1Vss	
Grating pitch	315 μ m	
Measuring force	2.52~5.76ozf	
Cable length	60"	
Linear gage length (L)	4.47"	5.26"

DISPLAY UNIT SPECIFICATION

Part No.	7108-1
Display	8 digits
Character height	.35"
Quantity of linear gages to be connected	single channel, to connect one linear gage*
Dust/waterproof	IP20
Display unit	inch, mm, grad
Optional resolution	.0001", .00001", .000001"
Data output	USB, RS232
Power supply	AC 85~264V, 150mA

* Double channel display is optional

AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER PART NO. ISH-MRD200-U**



- Tolerance measurement with alarm
- Set measurement times (2~9) to have average value and the difference of max. and min. value
- Convert to HV or HB automatically
- Memory of 1000 measurement values for browsing and output
- Measurement value can be sent to wireless printer automatically
- Calibration function compensates the measurement value for high accuracy
- The hardness value of soft materials like plastic is not stable. The lock function can obtain the value automatically
- Display unit is automatic power off



2.36" DIA flat anvil (included)



5.91" DIA flat anvil (included)



V-type anvil (included)



wireless printer (optional)

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD HRF, HRG (with standard indenters) HRE, HRH, HRK (with optional indenter)
Preliminary test force	98N/10kgf
Test force	588N/60kgf, 980N/100kgf, 1471N/150kgf
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~99 second
Resolution	0.1HR
Output	wireless and USB
Memory	1000
Max. workpiece height	6.69"
Max. workpiece depth	6.50" (from the center of indenter)
Power supply of the display unit	built-in rechargeable battery
**Power supply	110V, 50/60Hz
Dimension	20.47×6.30×27.56"
Weight	132lb

STANDARD DELIVERY

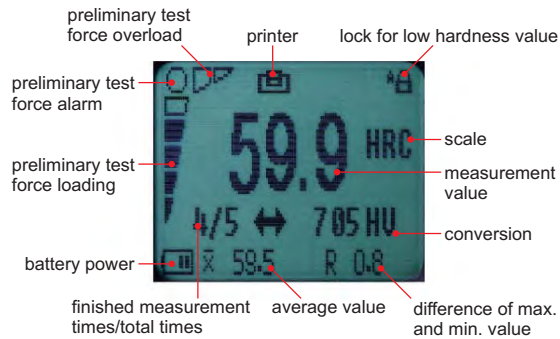
Main unit	1pc
2.36" DIA flat anvil	1pc
5.91" DIA flat anvil	1pc
V-type anvil	1pc
Diamond indenter	1pc
1/16" DIA carbide ball indenter	1pc
Hardness test block HRC20-30	1pc
Hardness test block HRC60-65	1pc
Hardness test block HRB88-95	1pc
Anti-dust cover	1pc
USB cable and software	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Wireless printer	ISH-DS-PRINTER
1/8" DIA carbide ball indenter	ISH-EHK-INDENTER
Hardness test block HRC20-30	ISH-BHRC1
Hardness test block HRC60-65	ISH-BHRC3
Hardness test block HRB88-95	ISH-BHRB

MANUAL DIGITAL ROCKWELL HARDNESS TESTER PART NO. ISH-RD200

DATA
OUTPUT



2.36" DIA flat anvil (included)



5.91" DIA flat anvil (included)



V-type anvil (included)



wireless printer (optional)

- Tolerance measurement with alarm
- Set measurement times (2~9) to have average value and the difference of max. and min. value
- Convert to HV or HB automatically
- Memory of 1000 measurement values for browsing and output
- Measurement value can be sent to wireless printer automatically
- Calibration function compensates the measurement value for high accuracy
- The hardness value of soft materials like plastic is not stable. The lock function can obtain the value automatically
- Automatic power off

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD HRF, HRG (with standard indenters) HRE, HRH, HRK (with optional indenter)
Preliminary test force	98N/10kgf
Test force	588N/60kgf, 980N/100kgf, 1471N/150kgf
Stage elevation	manual
Load control	manual
Resolution	0.1HR
Output	wireless and USB
Memory	1000
Max. workpiece height	6.69"
Max. workpiece depth	6.50" (from the center of indenter)
Power supply	built-in rechargeable battery
Dimension	20.47×6.30×27.56"
Weight	132lb

STANDARD DELIVERY

Main unit	1pc
2.36" DIA flat anvil	1pc
5.91" DIA flat anvil	1pc
V-type anvil	1pc
Diamond indenter	1pc
1/16" DIA carbide ball indenter	1pc
Hardness test block HRC20-30	1pc
Hardness test block HRC60-65	1pc
Hardness test block HRB88-95	1pc
Anti-dust cover	1pc
USB cable and software	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Wireless printer	ISH-DS-PRINTER
1/8" DIA carbide ball indenter	ISH-EHK-INDENTER
Hardness test block HRC20-30	ISH-BHRC1
Hardness test block HRC60-65	ISH-BHRC3
Hardness test block HRB88-95	ISH-BHRB

AUTOMATIC ROCKWELL HARDNESS TESTER PART NO. ISH-MR150-U**



2.36" DIA flat anvil



5.91" DIA flat anvil



V-type anvil

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N/10kgf
Test force	588N/60kgf, 980N/100kgf, 1471N/150kgf
Display	analogue
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~99 second
Min. reading	0.5HR
Max. workpiece height	6.69"
Max. workpiece depth	6.50" (from the center of indenter)
**Power supply	110V, 50/60Hz
Dimension	20.47×6.30×27.56"
Weight	132lb

STANDARD DELIVERY

Main unit	1pc
2.36" DIA flat anvil	1pc
5.91" DIA flat anvil	1pc
V-type anvil	1pc
Diamond indenter	1pc
1/16" DIA carbide ball indenter	1pc
Hardness test block HRC20-30	1pc

STANDARD DELIVERY

Hardness test block HRC60-65	1pc
Hardness test block HRB88-95	1pc
Anti-dust cover	1pc

OPTIONAL ACCESSORY

Hardness test block HRC20-30	ISH-BHRC1
Hardness test block HRC60-65	ISH-BHRC3
Hardness test block HRB88-95	ISH-BHRB

MANUAL ROCKWELL HARDNESS TESTER PART NO. ISH-R150



2.36" DIA flat anvil



5.91" DIA flat anvil



V-type anvil

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N/10kgf
Test force	588N/60kgf, 980N/100kgf, 1471N/150kgf
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	6.69"
Max. workpiece depth	6.50" (from the center of indenter)
Dimension	20.47×6.30×27.56"
Weight	132lb

STANDARD DELIVERY

Main unit	1pc
2.36" DIA flat anvil	1pc
5.91" DIA flat anvil	1pc
V-type anvil	1pc
Diamond indenter	1pc
1/16" DIA carbide ball indenter	1pc
Hardness test block HRC20-30	1pc

STANDARD DELIVERY

Hardness test block HRC60-65	1pc
Hardness test block HRB88-95	1pc
Anti-dust cover	1pc

OPTIONAL ACCESSORY

Hardness test block HRC20-30	ISH-BHRC1
Hardness test block HRC60-65	ISH-BHRC3
Hardness test block HRB88-95	ISH-BHRB

BRINELL/ROCKWELL/VICKERS HARDNESS TESTER PART NO. ISH-BRV-U**

projection screen with scale,
for reading Rockwell hardness



microscope for
Vickers and Brinell
15X eyepiece

graduation 0.01mm/.0004"

objective 2.5X/5X

slider



load/unload handle

stage

test force dial

choose hardness scale



2.36" DIA flat anvil for Rockwell



5.91" DIA flat anvil for Rockwell



V-type anvil for Rockwell



2.36" DIA flat anvil for
Vickers and Brinell



V-type anvil for Vickers and Brinell

SPECIFICATION

Rockwell test load	98N/10kgf preload, 588N/60kgf, 980N/100kgf, 1471N/150kgf total load
Min. Rockwell reading	0.5HR
Brinell test load	306N/31kgf, 613N/62.5kgf, 1839N/187.5kgf
Vickers test load	294N/30kgf
Stage elevation	manual
Load control	manual
Magnification of microscope	37.5X/75X (selectable)
Max. workpiece height	7.09"
Max. workpiece depth	7.87" (from the center of indenter)
**Power supply	110V, 50/60Hz
Dimension	21.50×11.81×30.20"
Weight	198lb

OPTIONAL ACCESSORY

Hardness test block HRC20-30	ISH-BHRC1
Hardness test block HRC60-65	ISH-BHRC3
Hardness test block HRB88-95	ISH-BHRB
Hardness test block 400-500HV30	ISH-BHV30
Hardness test block 180-220HBW2.5/187.5	ISH-BHB25B

STANDARD DELIVERY

Main unit	1pc
1/16" DIA carbide ball indenter	1pc
Diamond Rockwell indenter	1pc
.197" DIA Brinell indenter	1pc
.098" DIA Brinell indenter	1pc
Vickers indenter	1pc
2.36" DIA flat anvil for Rockwell	1pc
5.91" DIA flat anvil for Rockwell	1pc
V-anvil for Rockwell	1pc
2.36" DIA flat anvil for Vickers and Brinell	1pc
V-type anvil for Vickers and Brinell	1pc
Hardness test block HRC20-30	1pc
Hardness test block HRC60-65	1pc
Hardness test block HRB88-95	1pc
Hardness test block 400-500HV30	1pc
Hardness test block 180-220HBW2.5/187.5	1pc
Anti-dust cover	1pc

DIGITAL VICKERS HARDNESS TESTER



- Based on Vickers(HV), converted to Rockwell(HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK), Brinell(HB), Superficial Rockwell(HR15N, HR15T, HR30N, HR30T, HR45N, HR45T), Shore(HS) and Strength(MPa)
- Memory of 27 measurement values for print, browsing and output
- LCD display with backlight
- Can measure Knoop hardness, Knoop indenter is needed(part no.: ISH-KNOOP)

SPECIFICATION

Part No.	ISH-DV10-U**	ISH-DV50-U**
Measuring range	8HV0.3 ~ 2500HV10	5HV1 ~ 2500HV50
Test force	0.3, 0.5, 1, 3, 5, 10kgf	1, 5, 10, 20, 30, 50kgf
Accuracy	±3%	±3% (test force 1, 5, 10, 20kgf) ±2% (test force 30, 50kgf)
Eyepiece	magnification	10X
	resolution	0.0625µm/2.46µin
Objective	10X, 20X	10X
Total magnification	100X (for observation) 200X (for measuring)	100X (for measuring)
Stage elevation	manual	
Load control	automatic (load/dwell/unload)	
Dwell time	5 ~ 60 second	
Max. workpiece height	6.30"	
Max. workpiece depth	5.31"	
Data output	RS232C	
**Power supply	110V, 50/60Hz	
Dimension	21.26×10.63×25.59"	
Weight	77lb	99lb

STANDARD DELIVERY

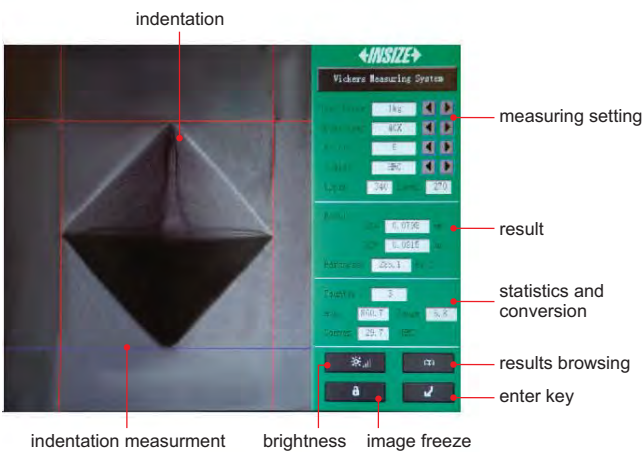
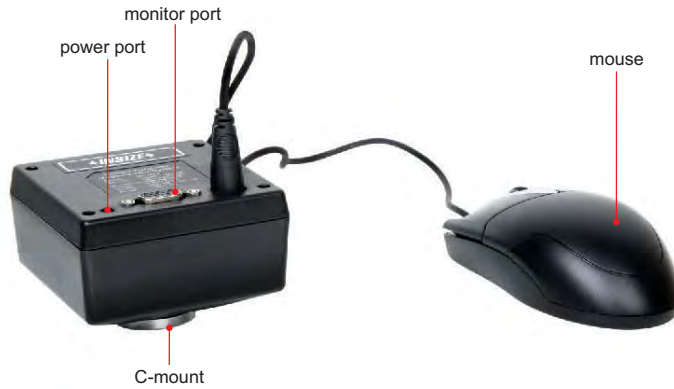
Main unit	1 pc
2.36" DIA flat anvil	1 pc
5.91" DIA flat anvil	1 pc
V-type anvil	1 pc
Vickers indenter	1 pc
10X objective	1 pc
20X objective	1 pc (for ISH-DV10)
Vickers test block	2 pcs
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Knoop indenter	ISH-KNOOP
Measuring system	ISH-HVC
Hardness test block 400-500HV5	ISH-BHV5B
Hardness test block 400-500HV10	ISH-BHV10A
Hardness test block 400-500HV30	ISH-BHV30

COMPUTER IS NOT NEEDED

VICKERS HARDNESS MEASURING SYSTEM PART NO. ISH-HVC



- Computer is not needed. Use mouse to measure on monitor
- Set measuring times (maximum 9) to have average value and the difference of max. and min. value
- Convert to HRA, HRB, HRC, HB, HR45T, HR45N, HR30T, HR30N, HR15T, HR15N
- Memory of 9 last results for browsing
- Result can be printed automatically (wireless printer is optional)
- 2 calibration modes: length calibration and hardness block calibration
- Tolerance measurement with alarm
- Image freeze function eliminates error due to vibration

SPECIFICATION

Sensor	1/2" CMOS
Pixel	2M (resolution 800×600)
Hardness measurement resolution	0.1HV
Length measurement resolution	0.1μm/3.94μin
Length measurement accuracy	±0.5% (diagonal length of indentation)
Test force	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1, 2, 2.5, 3, 5, 10, 20, 30, 50, 100, 120kgf
Objective	1X, 2X, 4X, 10X, 20X, 40X
Dimension	4.72×2.68×2.17"
Weight	1.10lb



wireless printer (optional)

STANDARD DELIVERY

Main unit	1pc
Mouse	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Wireless printer	ISH-DS-PRINTER
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PORTABLE LEEB HARDNESS TESTER PART NO. ISH-SPHA*

DATA
OUTPUT



included



printer



hardness test block (standard)



small support ring

- Based on Leeb(HL), converted to Vickers(HV), Brinell(HB), Rockwell(HRC and HRB), Shore(HS) and tensile strength(MPa)
- Connected with printer via bluetooth
- Connected with computer via USB port
- Up to 800 test results can be saved
- Low and high limits with judgement
- Touch screen operation, large display with backlight
- Language: English, Chinese, Italian, German, French and Portuguese
- Automatic power off
- According to ASTM A 956

SPECIFICATION

Min. reading	1HL, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
Accuracy	±6HL (when HL=800)
Display	Leeb(HL), converted hardness, material, impact direction, test times, average value, deviation, time
Output	bluetooth and USB
Power supply	built-in rechargeable battery
Dimension	5.31×3.27×.94"
Weight	0.77lb

STANDARD DELIVERY

Main unit	1pc
Impact device D	1pc
Printer	1pc
Hardness test block D	1pc
Small support ring	1pc
Cleaning brush	1pc
AC/DC adapter	1pc
USB cable and software disc	1pc of each
Pen for touch screen	1pc

* Supplied with manufacturer inspection certificate

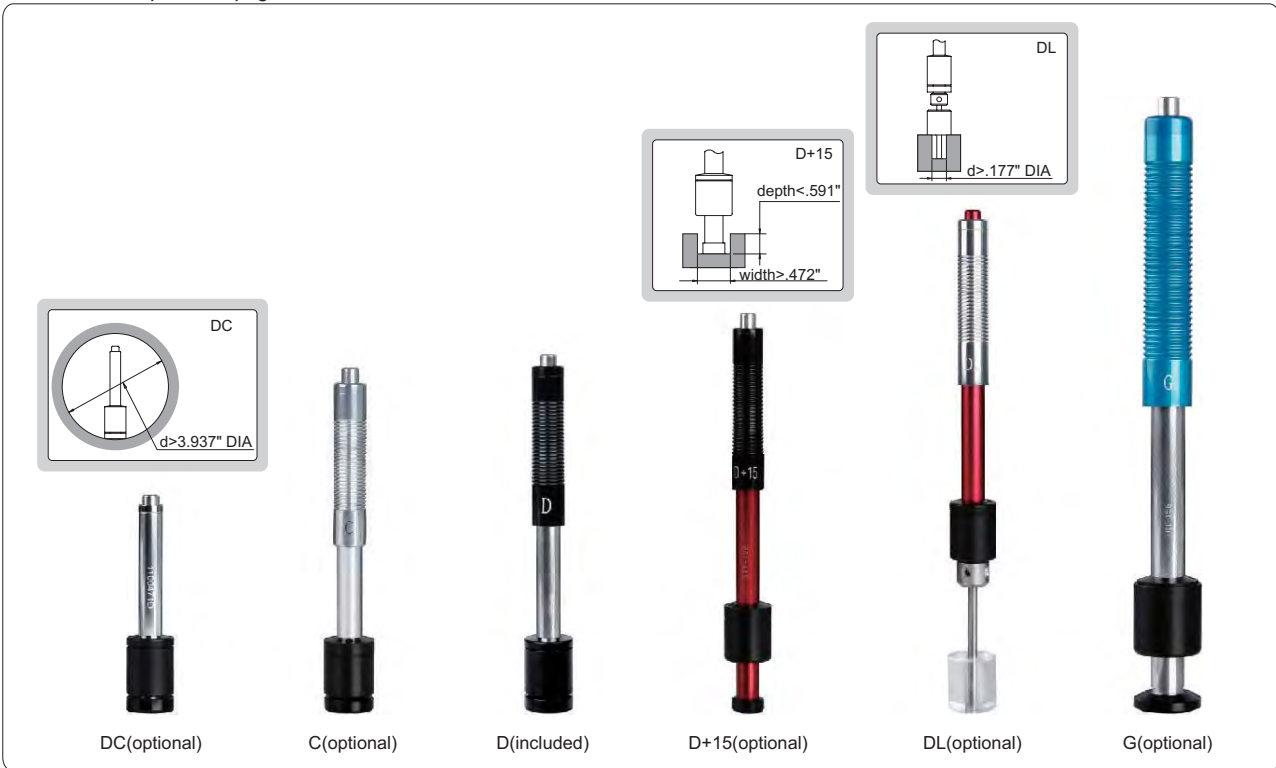
OPTIONAL ACCESSORY

Impact device DC	ISH-SPHA-DC
Impact device C	ISH-SPHA-C
Impact device D+15	ISH-SPHA-D15
Impact device DL	ISH-SPHA-DL
Impact device G	ISH-SPHA-G
Hardness test block D **	ISH-BHLD
Hardness test block G **	ISH-BHLG
Couplant	ISH-COUPPLANT
Support rings	page 281

** Hardness test block G (ISH-BHLG) is for impact device G (ISH-SPHA-G).
Hardness test block D (ISH-BHLD) is for all others impact devices.

To be continued

Continued from previous page



APPLICABLE WORKPIECE

Impact device		DC	C	D	D+15	DL	G
Application		inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	casting or forging workpiece
Maximum roughness of workpiece (Ra)		63µin	16µin	63µin	63µin	63µin	280µin
Minimum weight of workpiece	direct measurement	11.02lb	3.31lb	11.02lb	11.02lb	11.02lb	33.08lb
	on solid support	4.41lb	1.10lb	4.41lb	4.41lb	4.41lb	11.02lb
	coupled on plate	0.22lb	0.04lb	0.22lb	0.22lb	0.22lb	1.10lb
Minimum thickness of workpiece		.20"	.04"	.20"	.20"	.20"	.39"

APPLICABLE MATERIAL AND HARDNESS RANGE

Material	Scale	DC	C	D	D+15	DL	G
Steel & cast steel	HRC	20-68	20-69.5	20-68	19.3-67.9	20.6-68.2	
	HRB	38-100	38.4-99.5	38-100		37.0-99.9	47.7-99.9
	HB	81-654	80-683	81-654	80-638	81-646	90-646
	HV	81-955	80-996	81-955	180-818	80-950	
	HS	32-100	32-102	32-100	33-99	31-97	
	Tensile strength (MPa)			375-2639			
Cast iron	HB	93-334		93-334			92-326
	HV						
	HRC						
Tool steel	HRC	20-67		20-67			
	HV	80-898		80-898			
Stainless steel	HRB	46-101		46-101			
	HV	85-802		85-802			
	HB	85-655		85-655			
Cast aluminum alloy	HB	19-164		19-164			
	HRB	23-84		23-84			
Brass	HB	40-173		40-173			
	HRB	13-95		13-95			
Bronze	HB	60-290		60-290			
Copper	HB	45-315		45-315			

PORTABLE LEEB HARDNESS TESTER PART NO. ISH-PHA*



- Supplied with impact device D
- Based on Leeb(HLD), converted to Vickers(HV), Brinell(HB), Rockwell(HRC and HRB), Shore(HS) and tensile strength(MPa)
- Connected with printer via bluetooth
- LCD display with backlight
- Automatic power off
- According to ASTM A 956

SPECIFICATION

Min. reading	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
Accuracy	±6HLD(when HLD=800)	
Display	Leeb(HLD), converted hardness, material, impact direction, test times, average value, date	
Output	bluetooth	
Applicable workpiece	minimum weight	11.02lb (direct measurement)
		4.41lb (on solid support)
		0.22lb (coupled on plate)
	minimum thickness: .20"	
minimum radius of curved surface: .43"		
maximum roughness (Ra): 63µin		
Power supply	3×AAA batteries	
Dimension	5.91×3.15×.94"	
Weight	0.44lb	

STANDARD DELIVERY

Main unit	1pc
Impact device D	1pc
Printer	1pc
Hardness test block D	1pc
Small support ring	1pc
Cleaning brush	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORY

Couplant	ISH-COUPPLANT
Support rings	page 281
Hardness test block D	ISH-BHLD

APPLICABLE MATERIAL AND HARDNESS RANGE FOR IMPACT DEVICE D

Material	HLD	HV	HB	HRC	HRB	HS	Tensile strength (MPa)
Steel & cast steel	300-900	81-955	81-654	20-68	38-100	32-100	375-2639
Tool steel	300-840	80-898		20-67			
Stainless steel	300-800	85-802	85-655		46-101		
Cast iron	360-650		93-334				
Cast aluminum alloy	170-570		19-164		23-84		
Brass	200-550		40-173		13-95		
Bronze	300-700		60-290				
Copper	200-690		45-315				

* Supplied with manufacturer inspection certificate

PORTABLE LEEB HARDNESS TESTER PART NO. ISH-PHB*



hardness test block (included)



small support ring (included)



wireless printer (optional)



- Supplied with impact device D
- Set measurement times (1~9) to have average value
- Based on Leeb(HLD), converted to Vickers(HV), Brinell(HB), Rockwell(HRC and HRB), Shore(HS) and tensile strength(MPa)
- Memory of 99 measurement values for browsing
- Connected with printer via bluetooth
- Automatic power off
- According to ASTM A 956

SPECIFICATION

Min. reading	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
Accuracy	±6HLD (when HLD=800)	
Display	Leeb(HLD), converted hardness, material, impact direction, test times, average value, date	
Output	bluetooth	
Applicable workpiece	minimum weight	11.02lb
		4.41lb (on solid support)
		0.22lb (coupled on plate)
	minimum thickness:	.20"
	minimum radius of curved surface:	.43"
	maximum roughness(Ra):	63µin
Power supply	3×AAA batteries	
Dimension	5.91×3.31×1.10"	
Weight	0.44lb	

STANDARD DELIVERY

Main unit	1pc
Impact device D	1pc
Hardness test block D	1pc
Small support ring	1pc
Cleaning brush	1pc

OPTIONAL ACCESSORY

Wireless printer	ISH-DS-PRINTER
Couplant	ISH-COUPPLANT
Support rings	page 281
Hardness test block D	ISH-BHLD

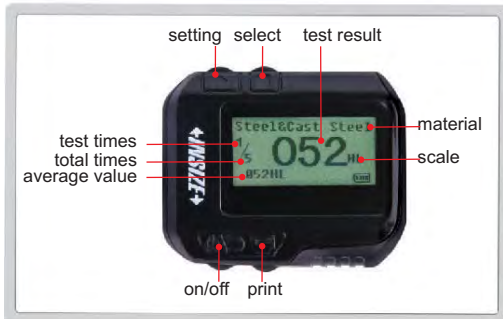
APPLICABLE MATERIAL AND HARDNESS RANGE FOR IMPACT DEVICE D

Material	HLD	HV	HB	HRC	HRB	HS	Tensile strength(MPa)
Steel & cast steel	300-900	81-955	81-654	20-68	38-100	32-100	375-2639
Tool steel	300-840	80-898		20-67			
Stainless steel	300-800	85-802	85-655		46-101		
Cast iron	360-650		93-334				
Cast aluminum alloy	170-570		19-164		23-84		
Brass	200-550		40-173		13-95		
Bronze	300-700		60-290				
Copper	200-690		45-315				

* Supplied with manufacturer inspection certificate

PORTABLE LEEB HARDNESS TESTER PART NO. ISH-SPHD*

DATA
OUTPUT



included



printer



hardness test block



small support ring

- Impact device D
- Based on Leeb(HLD), converted to Vickers(HV), Brinell(HB), Rockwell(HRC and HRB), Shore(HS) and tensile strength(MPa)
- Automatic direction correction
- Connected with printer via bluetooth
- Connected with computer via USB port
- Up to 500 test results can be saved
- According to ASTM A 956

SPECIFICATION

Min. reading	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS	
Accuracy	±6HLD (when HLD=800)	
Output	USB and bluetooth	
Applicable workpiece	minimum weight	11.02lb (direct measurement)
		4.41lb (on solid support)
		0.22lb (coupled on plate)
	minimum thickness: .20"	
	minimum radius of curved surface: .43"	
	maximum roughness(Ra): 63µin	
Power supply	built-in rechargeable battery	
Dimension	5.79×1.38×.87"	
Weight	0.14lb	

STANDARD DELIVERY

Main unit	1pc
Printer	1pc
Hardness test block D	1pc
Small support ring	1pc
Cleaning brush	1pc
AC/DC adapter	1pc
USB cable and software disc	1pc of each

OPTIONAL ACCESSORY

Couplant	ISH-COUPPLANT
Support rings	page 281
Hardness test block D	ISH-BHLD

APPLICABLE MATERIAL AND HARDNESS RANGE

Material	HLD	HV	HB	HRC	HRB	HS
Steel & cast steel	300-900	81-955	81-654	20-68	38-100	32-100
Tool steel	300-840	80-898		20-67		
Stainless steel	300-800	85-802	85-655		46-101	
Cast iron	360-650		93-334			
Cast aluminum alloy	170-570		19-164		23-84	
Brass	200-550		40-173		13-95	
Bronze	300-700		60-290			
Copper	200-690		45-315			

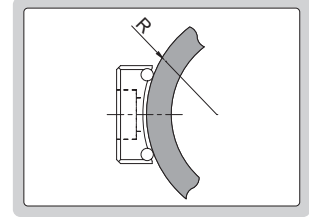
* Supplied with manufacturer inspection certificate

SUPPORT RINGS FOR PORTABLE LEEB HARDNESS TESTER

type A



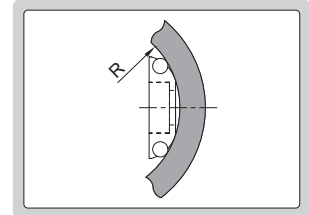
ISH-R1015



type B



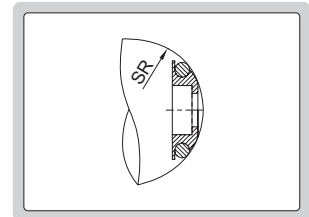
ISH-R1113



type C



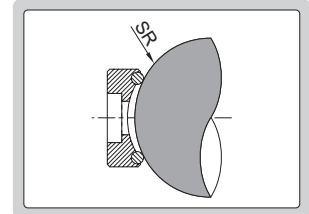
ISH-SR1113



type D



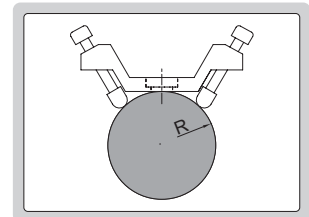
ISH-SR1015



type E



ISH-RUN



SPECIFICATION

Part No.	Type	Applicable workpiece	Range
ISH-R1015	A	cylindrical outside surface	.394 - .591" R
ISH-R14530			.571 - 1.181" R
ISH-R2550			.984 - 1.969" R
ISH-R1113	B	cylindrical inside surface	.433 - .512" R
ISH-R12517			.492 - .669" R
ISH-R16530			.650 - 1.181" R
ISH-SR1113	C	spherical inside surface	.433 - .512" SR
ISH-SR12517			.492 - .669" SR
ISH-SR16530			.650 - 1.181" SR
ISH-SR1015	D	spherical outside surface	.394 - .591" SR
ISH-SR14530			.571 - 1.181" SR
ISH-RUN	E	cylindrical outside surface	R > .394"

DIGITAL MAGNETIC ROCKWELL HARDNESS TESTER PART NO. ISHR-D121



- Apply to large and heavy steel or iron workpieces
- With statistic function, display average, maximum and minimum values
- Convert to HV, HB and tensile strength
- According to ISO 6508, ASTM E18



flat anvil for test block (included)

SPECIFICATION

Hardness scale	HRA, HRB, HRC
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	0.1HR
Flat workpiece requirement	length>7.48", width>2.36", thickness>.20"
Cylinder or tube workpiece requirement	length>7.84", diameter>1.97" DIA, wall thickness>.31"
Power supply	3×AAA batteries
Dimension	9.65×4.13×9.06"
Weight	11.69lb

STANDARD DELIVERY

Main unit	1pc
Flat anvil	1pc
Diamond indenter	1pc
1/16" DIA carbide ball indenter	1pc

Hardness test block HRB85-95	1pc
Hardness test block HRC60-70	1pc
Hardness test block HRC20-30	1pc

MAGNETIC ROCKWELL HARDNESS TESTER PART NO. ISHR-M111



- Apply to large and heavy steel or iron workpieces
- According to ISO 6508, ASTM E18



flat anvil for test block (included)



supports for cylinder or tube workpieces (included)



magnifier with LED (included)

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Flat workpiece requirement	length>7.09", width>2.36", thickness>.20"
Cylinder or tube workpiece requirement	length>7.09", diameter>1.97" DIA, wall thickness>.31"
Dimension	8.66×2.76×8.66"
Weight	10.36lb

STANDARD DELIVERY

Main unit	1pc
Diamond indenter	1pc
1/16" DIA carbide ball indenter	2pcs
Hardness test block HRC60-70	1pc
Hardness test block HRC20-30	1pc

Hardness test block HRB85-95	1pc
Flat anvil	1pc
Support	4pcs
Magnifier with LED	1pc

MAGNETIC BRINELL/ROCKWELL HARDNESS TESTER

PART NO. ISHR-B141



- Apply to large steel or iron workpieces
- According to ISO 6508, ASTM E18



flat anvil for test block (included)



supports for cylinder or tube workpieces (included)



magnifier with LED (included)



measuring microscope (included)

SPECIFICATION

Rockwell scale	HRA, HRB, HRC, HRD, HRF, HRG
Brinell measuring range	20~650HBW
Rockwell test force	10kg preload, 60kg, 100kg, 150kg total load
Brinell test force	62.5kg, 125kg, 187.5kg
Load control	manual
Min. Rockwell reading	1HR
Measuring microscope	40X, graduation 0.01mm/.0004"
Flat workpiece requirement	length>7.09", width>2.36", thickness>.20"
Cylinder and tube workpiece requirement	length>7.09", diameter>1.97" DIA, thickness>.31"
Dimension	8.66×2.76×8.66"
Weight	10.36lb

STANDARD DELIVERY

Main unit	1pc
Flat anvil	1pc
Support	4pcs
Diamond Rockwell indenter	1pc
1/16" DIA carbide ball indenter	1pc
Ø2.5mm/.098" DIA Brinell indenter	1pc

Hardness test block HRB85-95	1pc
Hardness test block HRC60-70	1pc
Hardness test block HRC20-30	1pc
Brinell test block	1pc
Measuring microscope	1pc
Magnifier with LED	1pc

PORTABLE ROCKWELL HARDNESS TESTER PART NO. ISHR-P151



■ According to ISO 6508, ASTM E18



flat anvil (included)



V-type anvil (included)



anvil extension for thin workpieces (included)

SPECIFICATION

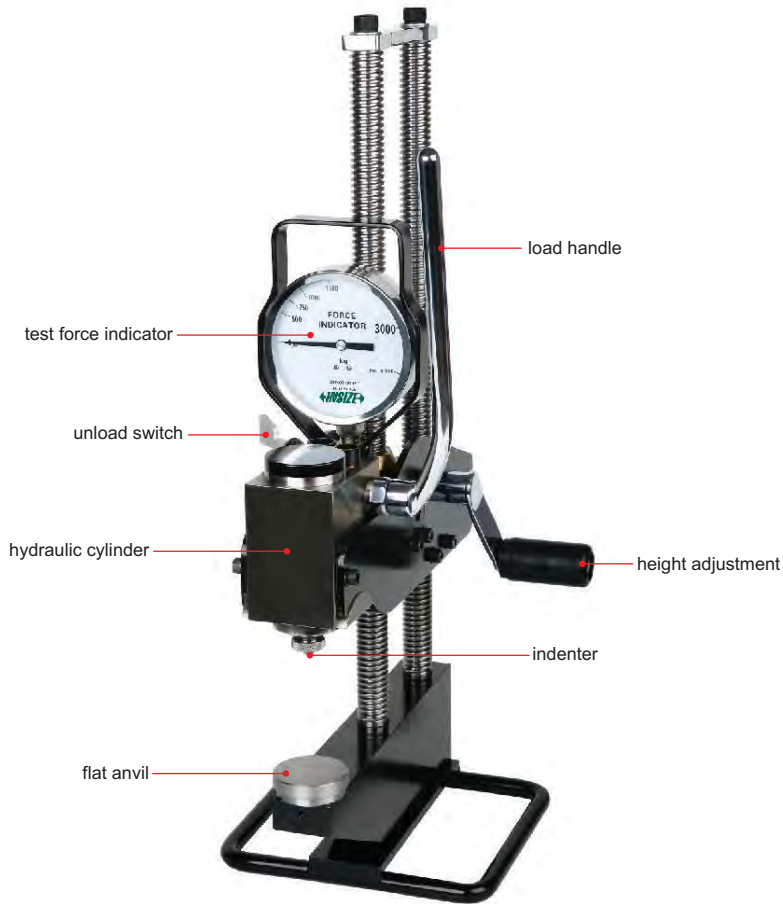
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Max. workpiece thickness	.98"
Max. workpiece depth	.98"
Dimension	9.45×2.76×6.30"
Weight (with base support)	5.51lb

STANDARD DELIVERY

Main unit	1pc
Diamond indenter	1pc
1/16" carbide ball indenter	2pcs
Hardness test block HRC20 ~ 30	1pc
Hardness test block HRC60 ~ 65	1pc
Hardness test block HRB88 ~ 95	1pc

Flat anvil	1pc
V-type anvil	1pc
Base	1pc
Anvil extension	1pc
Magnifier	2pcs

HYDRAULIC BRINELL HARDNESS TESTER PART NO. ISHB-H131



V-type anvil (included)



spherical anvil (included)



measuring microscope (included)

- According to ISO 6505, ASTM E10

SPECIFICATION

Measuring range	16~650HBW
Test force	3000kg
Indenter	Ø10mm/.394" DIA carbide ball
Measuring microscope	20X, graduation 0.01mm/.0004"
Max. workpiece height	13.78"
Max. workpiece depth	3.54" (from the center of indenter)
Dimension	10.63×8.86×22.44"
Weight	30.43lb

STANDARD DELIVERY

Main unit	1pc
Flat anvil	1pc
V-type anvil	1pc
Spherical anvil	1pc

Ø10mm/.394" DIA carbide ball	2pcs
Brinell test block	1pc
Measuring microscope	1pc

WEBSTER HARDNESS TESTER



ISHW-L20

- To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)

SPECIFICATION

Part No.	ISHW-L20	ISHW-L20A	ISHW-L20B	ISHW-B70	ISHW-B75	ISHW-B92
Application	for aluminum alloy general use	for aluminum alloy thick workpiece	for aluminum alloy small tube	for hard aluminum alloy and hard brass	for soft brass and copper	for soft steel and cold-rolled steel
Thickness requirement of flat workpiece	.024 ~ .23"	.024 ~ .51"	.024 ~ .31"	.024 ~ .23"	.024 ~ .23"	.024 ~ .23"
Internal diameter requirement of tube workpiece	>.39" DIA	>.39" DIA	>.23" DIA	>.39" DIA	>.39" DIA	>.39" DIA
Wall thickness requirement of tube workpiece	.024 ~ .23"	.024 ~ .51" (internal diameter .39 ~ .91" DIA) .024 ~ .23" (internal diameter >.91" DIA)	.024 ~ .31"	.024 ~ .23"	.024 ~ .23"	.024 ~ .23"
Hardness range	0 ~ 20HW					
Min. reading	1HW					
Accuracy	±0.5HW (at 5 ~ 17HW)					
Dimension	8.07×1.18×3.35"					
Weight	1.10lb					

STANDARD DELIVERY

Main unit	1pc
Spare indenter	1pc
Hardness test block	1pc
Wrench	1pc

BARCOL HARDNESS TESTER

PART NO. ISHB-B300



- To measure the hardness of thick workpieces made of pure aluminum aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- According to ASTM B648-00, ASTM D2853-07

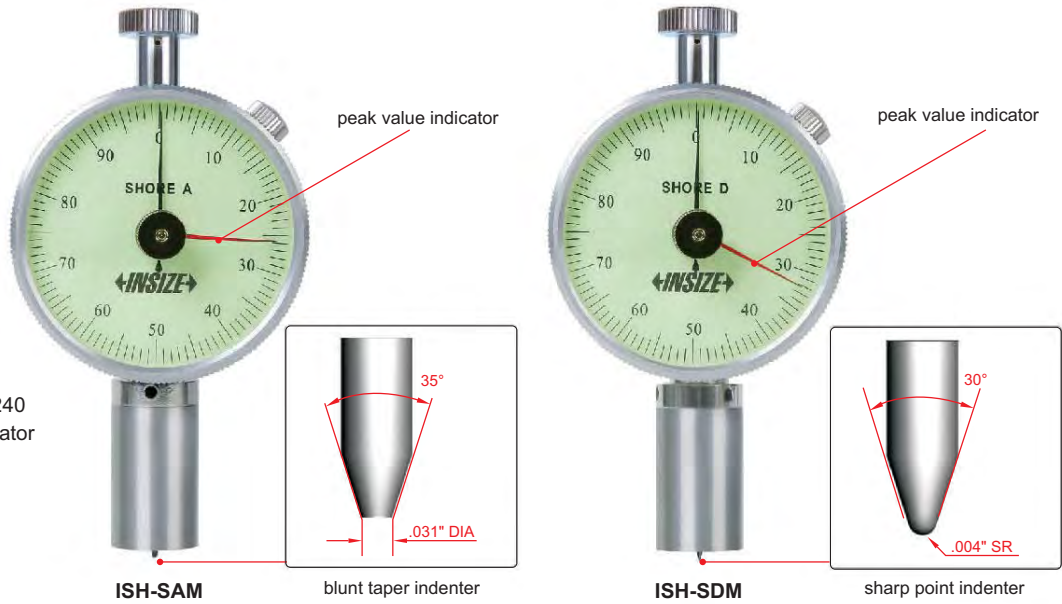
SPECIFICATION

Hardness range	0~100HBa (equal to 25~150HBW)
Min. reading	1HBa
Accuracy	±2HBa (at 42~52HBa) ±1HBa (at 84~88HBa)
Min. workpiece thickness	.03"
Dimension	5.59×2.56×3.54"
Weight	1.10lb

STANDARD DELIVERY

Main unit	1pc
Spare indenter	2pcs
Hardness test block	2pcs
Wrench	1pc

SHORE DUROMETER



- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand ISH-STAC and ISH-STD

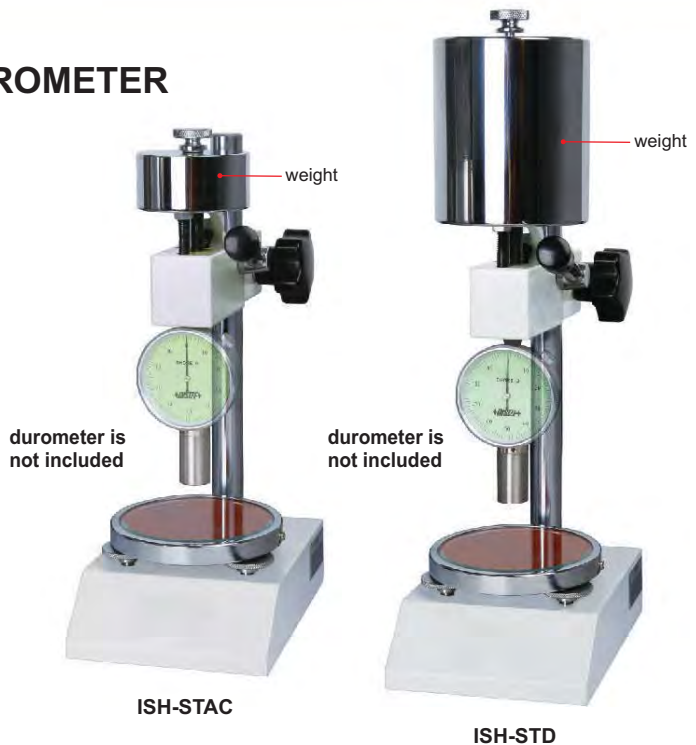
SPECIFICATION

Part No.	ISH-SAM	ISH-SDM
Scale	Shore A	Shore D
Application	nature rubber, soft elastomer, etc.	hard rubber, plastic, hard elastomer, etc.
Measuring range *	10~90HA	20~90HD
Graduation	1HA	1HD
Indenter protrusion	.10"	
Dimension	4.53×2.36×.98"	
Weight	.35lb	

* Use ISH-SDM when measuring result is higher than 90HA
Use ISH-SAM when measuring result is lower than 20HD

TESTING STAND FOR SHORE DUROMETER

- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations



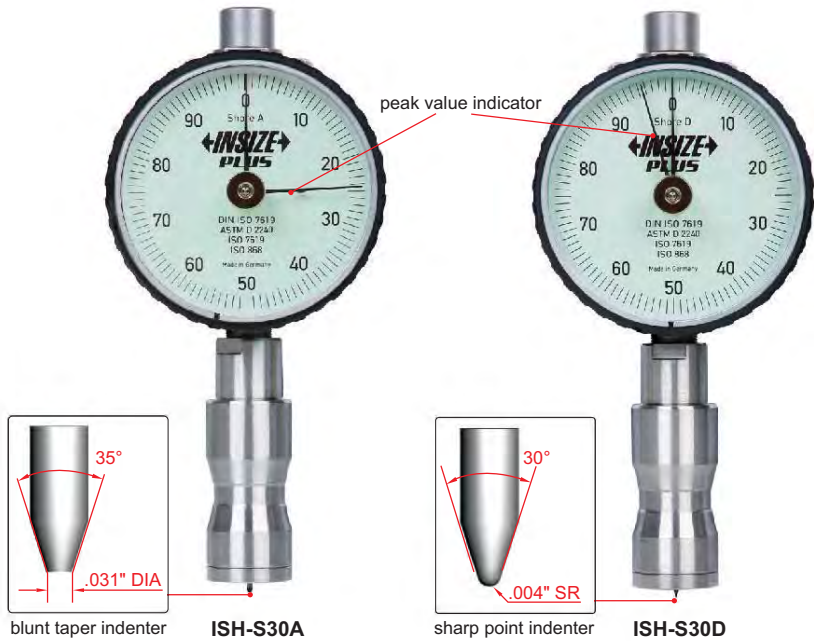
SPECIFICATION

Part No.	ISH-STAC	ISH-STD
Applicable durometer	ISH-SAM	ISH-SDM
Stage diameter	3.94" DIA	3.94" DIA
Maximum workpiece height	2.95"	2.95"
Mass of weight	2.2lb	11lb

SHORE DUROMETER



- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Handhold use or work with test stand (part no. ISH-OS2)



SPECIFICATION

Part No.	ISH-S30A	ISH-S30D
Unit	Shore A	Shore D
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.
Measuring range*	0~100HA	0~100HD
Resolution	1HA	1HD
Accuracy	±0.5HA	±0.5HD
Indenter protrusion	.10"	
Bezel diameter	2.24"	
Overall height	4.76"	
Weight	.41lb	

* Use ISH-S30D when measuring result is more than 90HA
 Use ISH-S30A when measuring result is less than 20HD

HARDNESS TEST BLOCK FOR SHORE DUROMETER



ISH-S30A-BLOCK



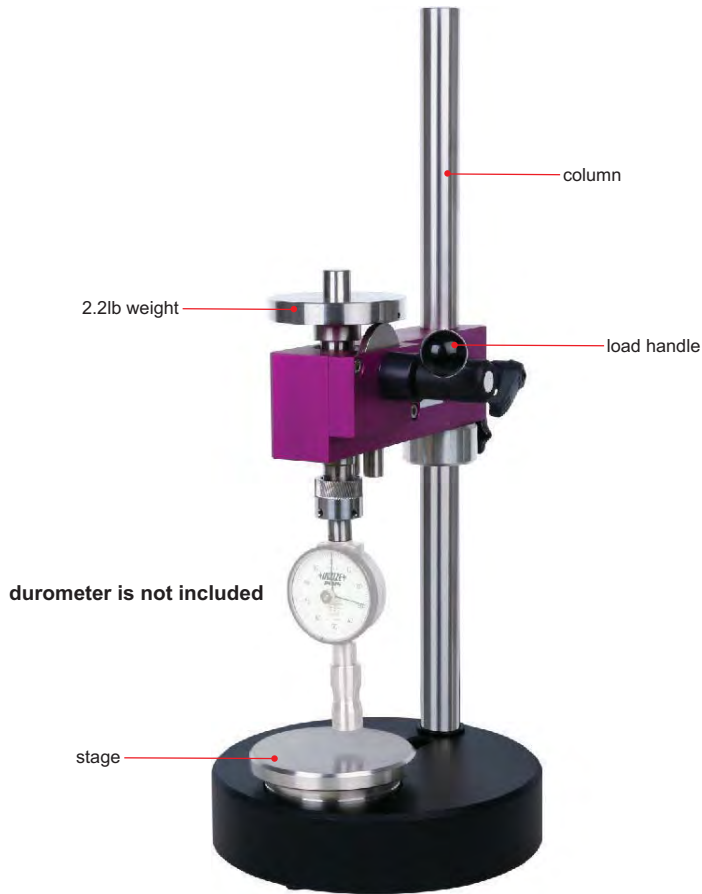
ISH-S30D-BLOCK

SPECIFICATION

Part No.	ISH-S30A-BLOCK	ISH-S30D-BLOCK
Type	Shore A	Shore D
Hardness value	7pcs/set: 30, 40, 50, 60, 70, 80, 90HA	3pcs/set: 60, 75, 85HD



TESTING STAND FOR SHORE DUROMETER PART NO. ISH-OS2



calibration block (included)



8.8lb weight (optional)
for ISH-S30D

- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- 2.2lb weight is for **ISH-S30A**, 8.8lb weight is for **ISH-S30D**

SPECIFICATION

Stage diameter	3.86" DIA
Maximum workpiece height	7.09"
Maximum workpiece depth	4.53" (from test point to column)
Weight	2.2lb (for ISH-S30A)
Dimension	7.87" DIA×19.69"
Weight	39.69lb

STANDARD DELIVERY

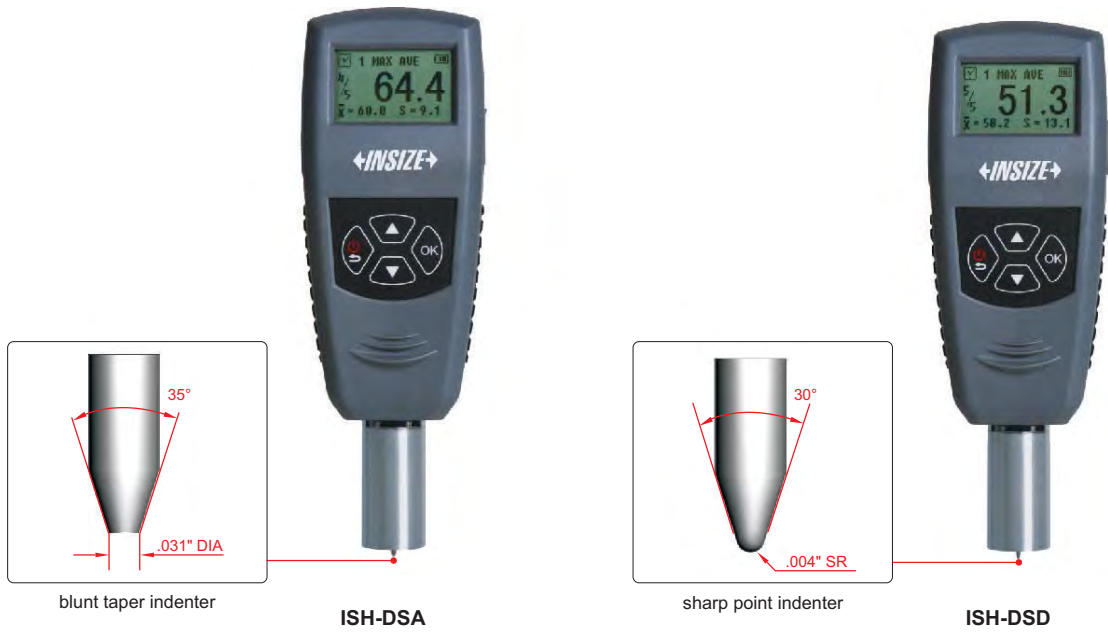
Testing stand	1pc
Calibration block	1pc

OPTIONAL ACCESSORY

8.8lb weight (for ISH-S30D)	ISH-OS2-W4
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DIGITAL SHORE DUROMETER

DATA
OUTPUT



- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Low and high limits with judgement
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (part no. ISH-DS-STAND)
- Automatic power off



SPECIFICATION

Part No.	ISH-DSA	ISH-DSD
Unit	Shore A	Shore D
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.
Measuring range**	0~100HA	0~100HD
Resolution	0.1HA	0.1HD
Accuracy	±1HA	±1HD
Indenter protrusion	.10"	
Output	wireless and USB	
Power supply	built-in rechargeable battery	
Dimension	6.02×1.97×1.14"	
Weight	.37lb	

STANDARD DELIVERY

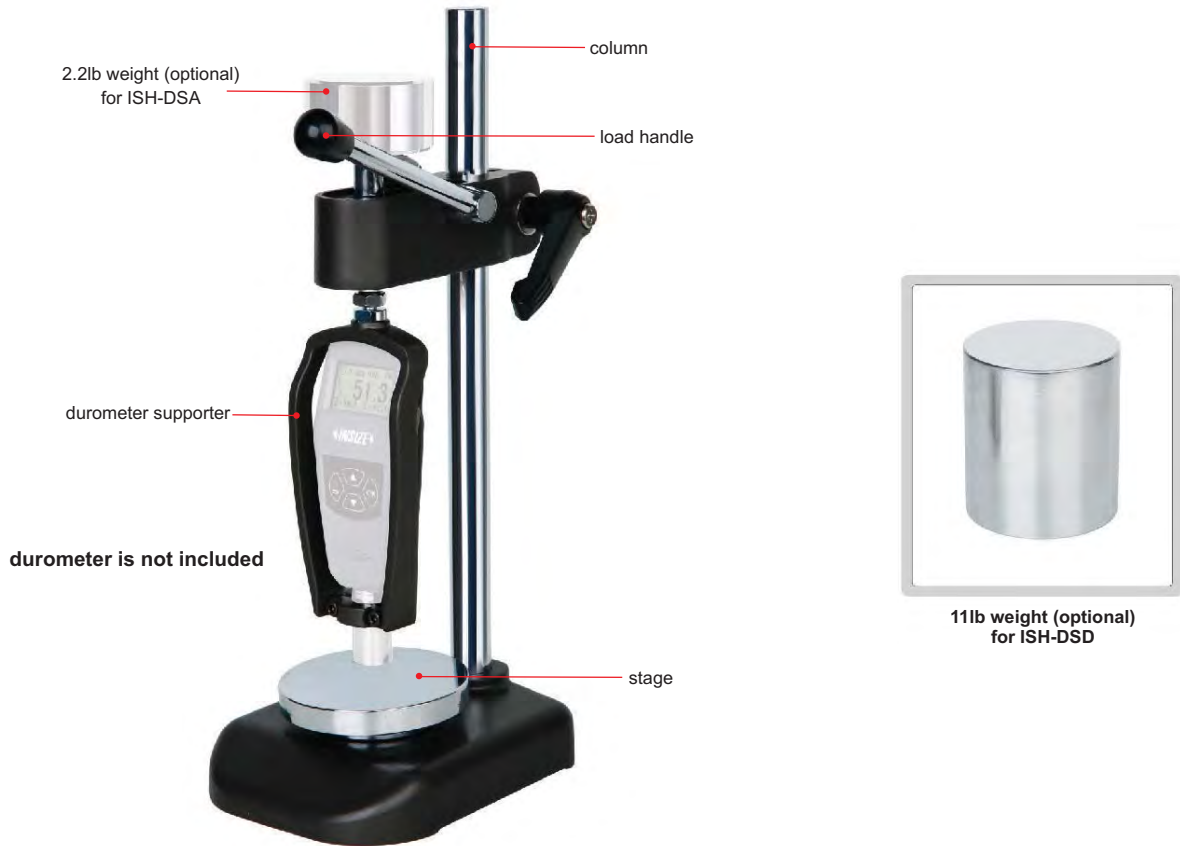
Main unit	1 pc
Calibration block	1 pc
USB cable and software	1 pc
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
Test stand	ISH-DS-STAND
2.2lb weight (for ISH-DSA)	ISH-DSA-W1
11lb weight (for ISH-DSD)	ISH-DSD-W5

** Use ISH-DSD when measuring result is more than 90HA
Use ISH-DSA when measuring result is less than 20HD

TESTING STAND FOR DIGITAL SHORE DUROMETER PART NO. ISH-DS-STAND



- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- 2.2lb weight is for **ISH-DSA**, 11lb weight is for **ISH-DSD**

SPECIFICATION

Stage diameter	3.46" DIA
Maximum workpiece height	2.95"
Dimension	4.92×6.42×13.78"
Weight	8.82lb

STANDARD DELIVERY

Testing stand	1pc
Durometer supporter	1pc

OPTIONAL ACCESSORY

2.2lb weight (for ISH-DSA)	ISH-DSA-W1
11lb weight (for ISH-DSD)	ISH-DSD-W5

DIGITAL FORCE GAGE

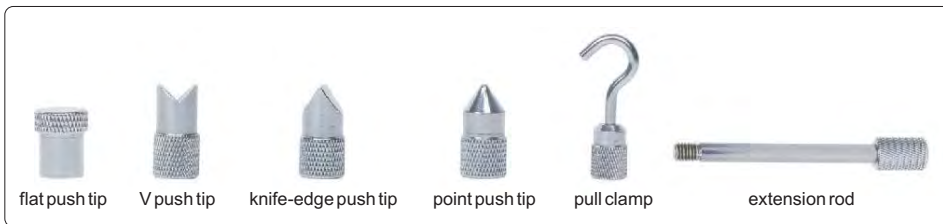
DATA
OUTPUT



ISF-1DF100

- Push and pull test
- Units: lbf, ozf, N, gf, kgf
- 500 memories
- Automatic power off
- Metal case
- LCD display with backlight, can turn 180°
- Overload alarm

push/pull accessory



printer (optional)



SPECIFICATION

Part No.	ISF-1DF10 *	ISF-1DF50 *	ISF-1DF100 *	ISF-1DF500 *	ISF-1DF1000 *
Load capacity (lbf)	2.2	11	22	110	220
Resolution (lbf)	0.001	0.01	0.01	0.1	0.1
Accuracy	±0.3% (of load capacity)				
Measuring mode	tracking, peak (max.), low and high limits with judgement				
Power supply	built-in rechargeable battery				
Dimension	5.91×2.87×1.30"				
Weight	0.99lb				

STANDARD DELIVERY

Main unit	1pc
AC/DC adapter	1pc
USB cable and software	1pc
Push/pull accessory	6pcs (flat push tip, V push tip, knife-edge push tip, point push tip, pull clamp, extension rod)

OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
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* Supplied with manufacturer inspection certificate

DATA
OUTPUT



ISF-DF100A
type A



ISF-DF5KA
type B

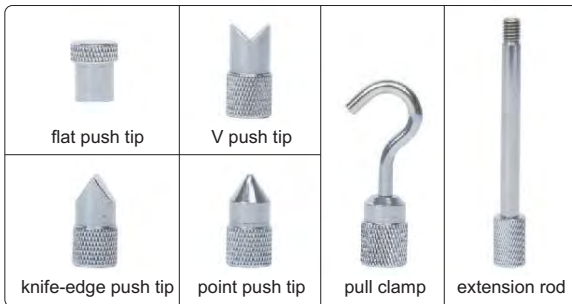
DIGITAL FORCE GAGE (HIGH RESOLUTION)

- Push and pull test
- Peak (max.) and tracking mode
- Units: lbf, ozf, mN, N, gf, kgf
- Low and high limits with judgement
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight, can automatically turn 180°
- Overload alarm



printer (optional)

accessory for type A



accessory for type B



SPECIFICATION

Part No.	ISF-DF 5A*	ISF-DF 10A*	ISF-DF 20A*	ISF-DF 50A*	ISF-DF 100A*	ISF-DF 200A*	ISF-DF 500A*	ISF-DF 1KA*	ISF-DF 2KA*	ISF-DF 5KA*	ISF-DF 10KA*	ISF-DF 20KA*
Type	A (internal sensor)								B (external sensor)			
Load capacity (lbf)	1.1	2.2	4.4	11	22	44	110	220	450	1100	2250	4500
Resolution (lbf)	0.0001	0.0005	0.001	0.001	0.005	0.01	0.01	0.05	0.1	0.1	0.5	1
Accuracy	±0.3% (of load capacity)											
Power supply	built-in rechargeable battery											

STANDARD DELIVERY

Part No.	ISF-DF 5A	ISF-DF 10A	ISF-DF 20A	ISF-DF 50A	ISF-DF 100A	ISF-DF 200A	ISF-DF 500A	ISF-DF 1KA	ISF-DF 2KA	ISF-DF 5KA	ISF-DF 10KA	ISF-DF 20KA
Main unit	1pc								1pc			
AC/DC adapter	1pc								1pc			
USB cable and software	1pc								1pc			
Push/pull accessory	6pcs (flat push tip, V push tip, knife-edge push tip, point push tip, pull clamp, extension rod)								4pcs (flat push tip, adapter, pull clamps)			

OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
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* Supplied with manufacturer inspection certificate

**TESTING STAND
PART NO. ISF-MT1K**



force gages are not included



digital scale (optional)



horizontal orientation test

- For tensile and compress test with force gages (part no. **ISF-1DFxx** and **ISF-DFxx**)
- Can be used in vertical and horizontal orientation

SPECIFICATION

Load capacity	220lbf
Travel	7.87" (.12" vertical movement per revolution of handwheel)
Dimension	7.72 x 9.84 x 17.56"
Weight	28.67lb

OPTIONAL ACCESSORY

Digital scale (range: 8", resolution: .0005"/0.01mm)	ISF-MT1K-SCALE
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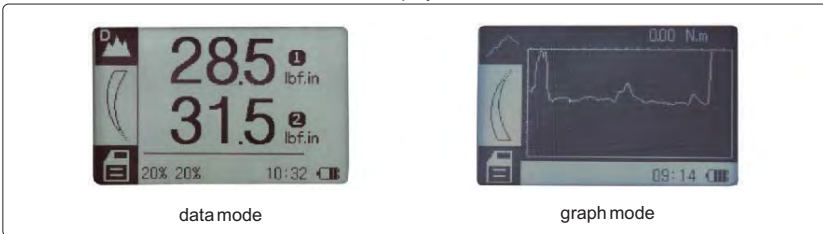
DIGITAL BOTTLE CAP TORQUE TESTER

- Measure the open and tighten torque of bottle cap
- Units: lbf.in, lbf.ft, N.m, N.cm, kgf.cm
- 1500 memories
- Wireless connection to printer
- Automatic power off
- LCD display with backlight
- Overload alarm
- With calibration function



IST-DCT20

two display modes



printer (optional)



SPECIFICATION

Part No.	IST-DCT2	IST-DCT5	IST-DCT10	IST-DCT20
Load capacity	17.7lbf.in	44.3lbf.in	88.5lbf.in	177lbf.in
	—	3.68lbf.ft	7.4lbf.ft	14.7lbf.ft
Resolution	0.01lbf.in	0.01lbf.in	0.05lbf.in	0.1lbf.in
	—	0.001lbf.ft	0.005lbf.ft	0.01lbf.ft
Clamping range	.77~7.48" DIA			
Accuracy	±0.5% (of load capacity)			
Measuring mode	tracking, peak (max.), first peak, double peak, low and high limits with judgement			
Output	wireless and USB			
Power supply	built-in rechargeable battery			
Dimension	7.87×7.76×5.59"			
Weight	5.51lb			

STANDARD DELIVERY

Main unit	1pc
AC/DC adapter	1pc
USB cable and software	1pc

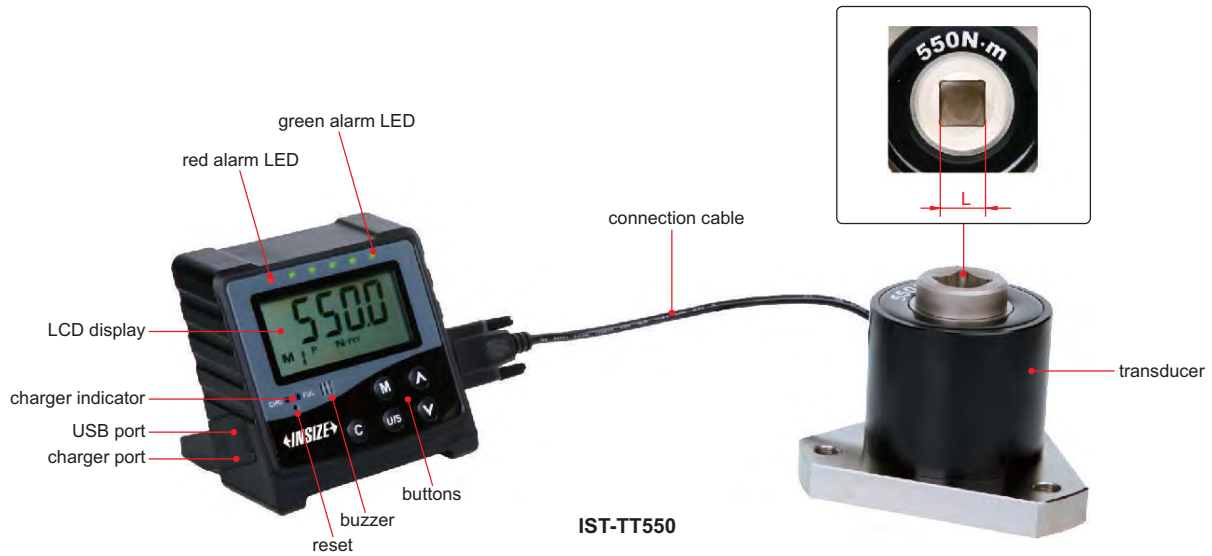
OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
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DIGITAL TORQUE TESTER

ATTENTION: NOT SUITABLE FOR ELECTRIC WRENCHES, IMPACT WRENCHES OR PNEUMATIC WRENCHES

DATA OUTPUT



- With external sensor, to test torque wrenches, torque screwdrivers and other torque tools
- Clockwise and counter-clockwise operation
- Peak and track working modes
- Unit: in.lb, ft.lb, N.m, kg.cm
- Target torque value can be set (9 target torque values can be saved and selected quickly), with audible and visible alarm:
 - Green LED light on and buzzer sounds when the value is 90%~100% of target torque
 - Both green and red LED light on and buzzer sounds when the target torque value is reached
- Memory of 250 measurement values for browsing and output
- Power off in 5 minutes automatically



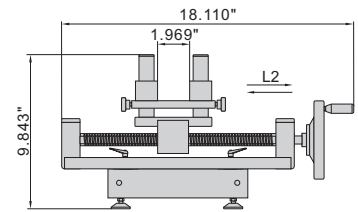
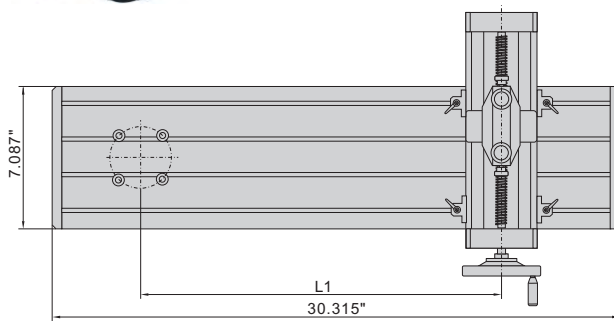
SPECIFICATION

Part No.	IST-TT5	IST-TT50	IST-TT220	IST-TT550	IST-TT2200
Range	4.42~44.24in.lb	44.2~442.4in.lb	195~1946in.lb	487~4867in.lb	—
	0.369~3.687ft.lb	3.69~36.87ft.lb	16.2~162.2ft.lb	40.6~405.6ft.lb	162~1622ft.lb
Accuracy	±1% (clockwise and counter-clockwise)				
Resolution	0.01in.lb	0.1in.lb	1in.lb	1in.lb	—
	0.001ft.lb	0.01ft.lb	0.1ft.lb	0.1ft.lb	1ft.lb
Square socket (L)	1/4"	3/8"	1/2"	3/4"	1"
Power supply	built-in rechargeable battery				
Adaptor	no	3/8" to 1/4"	1/2" to 3/8" 3/8" to 1/4"	3/4" to 1/2" 1/2" to 3/8"	1" to 3/4" 3/4" to 1/2"
Transducer dimension	2.36×2.36×1.85"	3.50×3.50×2.56"	4.29×4.29×2.87"	5.51×5.51×3.82"	6.30×6.30×4.57"
Weight	1.54lb	2.43lb	3.09lb	6.17lb	10.36lb

STANDARD DELIVERY

Main unit	1pc
Transducer with 40" cable	1pc
AC/DC adapter	1pc
USB cable and software	1pc
Adaptor	refer to the above

TORQUE WRENCH TESTING STAND PART NO. IST-TS500



application example



digital torque tester (optional)



adapter (optional, for digital torque tester IST-TT5, IST-TT50, IST-TT220)

- Work with digital torque tester (IST-TT5, IST-TT50, IST-TT220, IST-TT550)

SPECIFICATION

Digital torque tester	IST-TT5 (optional)	IST-TT50 (optional)	IST-TT220 (optional)	IST-TT550 (optional)
Applicable torque wrenches	4.42~44.24in.lb	44.2~442.4in.lb	195~1946in.lb	487~4867in.lb
	0.369~3.687ft.lb	3.69~36.87ft.lb	16.2~162.2ft.lb	40.6~405.6ft.lb
Arm length (L1)	5.91~21.65", adjustable			
Maximum travel (L2)	7.87"			
Weight	26.46lb			

OPTIONAL ACCESSORY

Digital torque tester	IST-TT5, IST-TT50, IST-TT220, IST-TT550
Adapter	IST-TS500-BLOCK (necessary for IST-TT5, IST-TT50 and IST-TT220, not needed for IST-TT550)

DIGITAL TORQUE SCREWDRIVER



IST-SD200

SPECIFICATION

Part No.	IST-SD50*	IST-SD200*	IST-SD400*
Range	0.88~4.42in.lb	3.54~17.7in.lb	7.08~35.39in.lb
Accuracy	clockwise	±3%	±2.5%
	counter-clockwise	±4%	±3.5%
Resolution	0.01in.lb	0.01in.lb	0.01in.lb
Size of shank (L)	1/4"	1/4"	1/4"
Power supply	1×AAA battery		
Length	7.60"	7.99"	7.99"
Weight	0.42lb	0.44lb	0.44lb

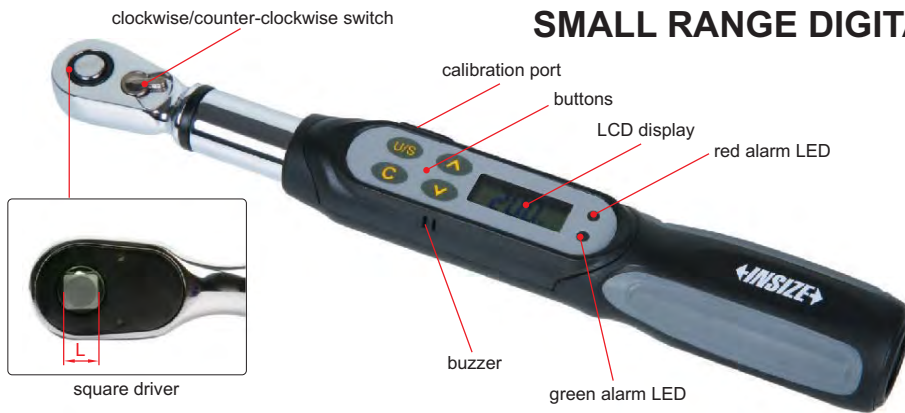
- Clockwise and counter-clockwise operation
- Unit: in.lb, cN.m, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
 - Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Supplied with calibration certificate

OPTIONAL ACCESSORY

Calibration cable IST-SD-CABLE

*Supplied with manufacturer inspection certificate

SMALL RANGE DIGITAL TORQUE WRENCH



IST-WP20

SPECIFICATION

Part No.	IST-WP12*	IST-WP20*
Range	21.2~106.2in.lb	35.4~177.0in.lb
	1.77~8.85ft.lb	2.95~14.75ft.lb
Accuracy	clockwise	±3%
	counter-clockwise	±4%
Resolution	0.1in.lb	0.1in.lb
	0.01ft.lb	0.01ft.lb
Square driver (L)	1/4"	1/4"
Power supply	1×AAA battery	
Length	10.24"	10.24"
Weight	0.95lb	0.95lb

- Clockwise and counter-clockwise operation
- Unit: in.lb, ft.lb, N.m, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
 - Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)
- Supplied with calibration certificate

OPTIONAL ACCESSORY

Calibration cable IST-W-CABLE

*Supplied with manufacturer inspection certificate

SHORT HANDLE DIGITAL TORQUE WRENCH



IST-WS60

- Clockwise and counter-clockwise operation
- Unit: in.lb, ft.lb, N.m, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
 - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)
- Supplied with calibration certificate

SPECIFICATION

Part No.	IST-WS30 *	IST-WS30A *	IST-WS60 *	IST-WS85 *
Range	53.1 ~ 265.5in.lb	53.1 ~ 265.5in.lb	106.2 ~ 530.9in.lb	150 ~ 752in.lb
	4.42 ~ 22.12ft.lb	4.42 ~ 22.12ft.lb	8.85 ~ 44.24ft.lb	12.5 ~ 62.7ft.lb
Accuracy	clockwise	±3%		
	counter-clock wise	±4%		
Resolution	0.1in.lb	0.1in.lb	0.1in.lb	1in.lb
	0.01ft.lb	0.01ft.lb	0.01ft.lb	0.1ft.lb
Square driver (L)	1/4"	3/8"	3/8"	3/8"
Power supply	2×AAA batteries			
Length	8.46"	8.46"	8.86"	10.67"
Weight	1.65lb	1.83lb	2.02lb	2.21lb

OPTIONAL ACCESSORY

Calibration cable	IST-WS-CABLE
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* Supplied with manufacturer inspection certificate

DIGITAL TORQUE WRENCH



IST-W135A

- Clockwise and counter-clockwise operation
- Unit: in.lb, ft.lb, N.m, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
 - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)
- Supplied with calibration certificate

SPECIFICATION

Part No.	Range		Accuracy	Resolution		Square driver (L)	Power supply	Length	Weight
IST-W30A*	53.1~265.5in.lb	4.42~22.12ft.lb	clockwise: $\pm 2\%$ counter-clockwise: $\pm 3\%$	0.1in.lb	0.01ft.lb	1/4"	2×AA batteries	15.35"	1.83lb
IST-W135A*	239~1195in.lb	19.9~99.5ft.lb		1in.lb	0.1ft.lb	3/8"		16.34"	2.09lb
IST-W200A*	354~1770in.lb	29.5~147.5ft.lb		1in.lb	0.1ft.lb	1/2"		20.87"	3.09lb
IST-W340A*	602~3009in.lb	50.1~250.7ft.lb		1in.lb	0.1ft.lb	1/2"		25.59	3.53lb
IST-W500A*	885~4424in.lb	73.7~368.7ft.lb		1in.lb	0.1ft.lb	3/4"		37.40"	4.63lb
IST-W850A*	1504~7521in.lb	125.4~626.8ft.lb		1in.lb	0.1ft.lb	3/4"		48.03	5.62lb
IST-W1200A*	—	177~885ft.lb		—	1ft.lb	1"		70.87"	28.67lb
IST-W1500A*	—	221~1106ft.lb		—	1ft.lb	1"		70.87"	28.67lb
IST-W2000A*	—	295~1476ft.lb	—	1ft.lb	1"	70.87"	30.87lb		

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE
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* Supplied with manufacturer inspection certificate

DIGITAL ANGLE TORQUE WRENCH



IST-1W135A

- Clockwise and counter-clockwise operation
- Set the desired torque first. After reaching the desired torque, set the angle and turn the wrench at this angle to apply extra torque
- Unit: in.lb, ft.lb, N.m, kg.cm, degree
- Peak and track working mode
- Target torque or angle value can be set, with audible and visible alarm: green LED light on and buzzer sounds when torque or angle value is 90%~100% of target torque or angle
both green and red LED light on and buzzer sounds when target torque or angle value is reached
- Power off in 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



Set the desired torque first. After reaching the desired torque, set the angle and turn the wrench at this angle to apply extra torque

SPECIFICATION

Part No.		IST-1W30A *	IST-1W135A *	IST-1W200A *	IST-1W340A *
Range	torque	53.1~265.5in.lb 4.42~22.12ft.lb	239~1195in.lb 19.9~99.5ft.lb	354~1770in.lb 29.5~147.5ft.lb	602~3009in.lb 50.1~250.7ft.lb
	angle	0~999°			
Accuracy	clockwise	±2%			
	counter-clock wise	±3%			
	angle	±2° (rotate 90°)			
Resolution	torque	0.1in.lb	1in.lb	1in.lb	1in.lb
		0.01ft.lb	0.1ft.lb	0.1ft.lb	0.1ft.lb
	angle	1°			
Square driver (L)		1/4"	3/8"	1/2"	1/2"
Power supply		2xAA batteries, for 110 hours working			
Length		15.35"	16.34"	20.87"	25.59"
Weight		1.83lb	2.09lb	3.09lb	3.53lb

OPTIONAL ACCESSORY

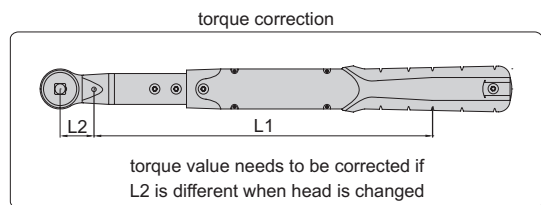
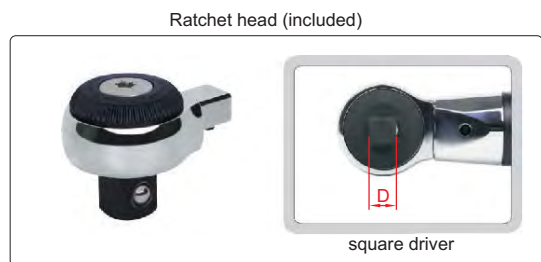
Calibration cable	IST-1W-CABLE
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* Supplied with manufacturer inspection certificate

INTERCHANGEABLE HEAD DIGITAL TORQUE WRENCH



- Clockwise and counter-clockwise operation
- Unit: in.lb, ft.lb, N.m, kg.cm, degree
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
 - green LED light on and buzzer sounds when torque value is 90%~100% of target torque
 - both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 5 minutes automatically without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



SPECIFICATION

Part No.	IST-2W30A*	IST-2W135A*	IST-2W200A*	IST-2W340A*
Range	53.1~265.5in.lb	239~1195in.lb	354~1770in.lb	602~3009in.lb
	4.42 ~ 22.12ft.lb	19.9~99.5ft.lb	29.5 ~ 147.5ft.lb	50.1 ~ 250.7ft.lb
Accuracy	clockwise	±2%		
	counter-clock wise	±3%		
Resolution	0.1in.lb	1in.lb	1in.lb	1in.lb
	0.01ft.lb	0.1ft.lb	0.1ft.lb	0.1ft.lb
Socket size (A×B)	.47×.35"	.47×.35"	.71×.55"	.71×.55"
Arm length (L1)	10.74"	11.33"	15.00"	19.73"
Power supply	2xAA batteries, for 110 hours working			
Weight	3.09lb	3.46lb	4.78lb	5.12lb

RATCHET HEAD (included) SPECIFICATION

Part no. of torque wrench	IST-2W30A*	IST-2W135A*	IST-2W200A*	IST-2W340A*
Square driver (D)	1/4"	3/8"	1/2"	1/2"
Length (L2)	1.14"	1.14"	1.57"	1.57"

STANDARD DELIVERY

Torque wrench	1 pc
Ratchet head	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-1W-CABLE
Interchangeable head	refer to next page

* Supplied with manufacturer inspection certificate

To be continued

Continued from previous page

INTERCHANGEABLE HEAD DIGITAL TORQUE WRENCH



Ratchet head (optional)

Part No.	Square driver (D)	Applicable wrenches
IST-2W-R1	1/4"	IST-2W30A
IST-2W-R2	3/8"	IST-2W135A
IST-2W-R3	1/2"	IST-2W135A
IST-2W-R4	1/2"	IST-2W200A IST-2W340A



ADJUSTABLE SPANNER HEAD (optional)

Part No.	Open size	Applicable wrenches
IST-2W-A1	.20~1.06"/5~27mm	IST-2W135A
IST-2W-A2	.20~1.18"/5~30mm	IST-2W200A
IST-2W-A3	.39~1.61"/10~41mm	IST-2W340A



OPEN END HEAD (optional)

Part No.	Open size	Applicable wrenches
IST-2W-K1B	1/4"	IST-2W30A IST-2W135A
IST-2W-K5D	5/16"	
IST-2W-K3C	3/8"	
IST-2W-K7D	7/16"	
IST-2W-K1A	1/2"	
IST-2W-K9D	9/16"	
IST-2W-K5C	5/8"	
IST-2W-K11D	11/16"	
IST-2W-K3B	3/4"	
IST-2W-2K1A	1/2"	IST-2W200A IST-2W340A
IST-2W-2K9D	9/16"	
IST-2W-2K5C	5/8"	
IST-2W-2K11D	11/16"	
IST-2W-2K3B	3/4"	
IST-2W-2K13D	13/16"	
IST-2W-2K7C	7/8"	
IST-2W-2K15D	15/16"	
IST-2W-2K1W	1"	
IST-2W-2K1F	1.1/8"	



BOX END HEAD (optional)

Part No.	Open size	Applicable wrenches
IST-2W-M1B	1/4"	IST-2W30A IST-2W135A
IST-2W-M5D	5/16"	
IST-2W-M3C	3/8"	
IST-2W-M7D	7/16"	
IST-2W-M1A	1/2"	
IST-2W-M9D	9/16"	
IST-2W-M5C	5/8"	
IST-2W-M11D	11/16"	
IST-2W-M3B	3/4"	
IST-2W-M13D	13/16"	
IST-2W-M7C	7/8"	

WIRELESS DATA TRANSFER DIGITAL TORQUE WRENCH



**DIGITAL TORQUE WRENCH
IST-3W135A**

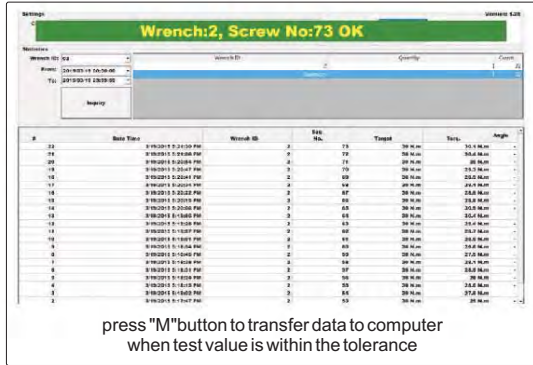


**RECEIVER
IST-3WREC**



up to 10 pcs torque wrench can be connected to one receiver, the maximum working distance is 984ft

- Wireless data transfer to computer
- Unit: in.lb, ft.lb, N.m, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm: green LED light on and buzzer sounds when torque value is 80% ~ 99.5% of target torque both green and red LED light on and buzzer sounds when torque value is over 99.5% of target torque
- Power off in 2 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



press "M" button to transfer data to computer when test value is within the tolerance

DIGITAL TORQUE WRENCH SPECIFICATION

Part No.	IST-3W30A*	IST-3W135A*	IST-3W200A*	IST-3W340A*
Range	53.1~265.5in.lb	239~1195in.lb	354~1770in.lb	602~3009in.lb
	4.42~22.12ft.lb	19.9~99.5ft.lb	29.5~147.5ft.lb	50.1~250.7ft.lb
Accuracy	clockwise	±2%		
	counter-clockwise	±3%		
Tolerance setting range	-25% ~ +25% (target torque value)			
Resolution	0.1in.lb	1in.lb	1in.lb	1in.lb
	0.01ft.lb	0.1ft.lb	0.1ft.lb	0.1ft.lb
Square driver (L)	1/4"	3/8"	1/2"	1/2"
Working frequency	ISM433MHz (432.0 ~ 433.8MHz, adjustable)			
Power supply	2xAA batteries, for 110 hours working			
Length	15.35"	16.34"	20.87"	25.59"
Weight	1.68lb	2.07lb	2.95lb	3.40lb

* Supplied with manufacturer inspection certificate

RECEIVER SPECIFICATION

Part No.	IST-3WREC
Working frequency	ISM433MHz (432.0 ~ 433.8MHz adjustable)
Power supply	DC 24V, 0.5A
Dimension	7.87×4.25×1.22"
Weight	1.10lb

OPTIONAL ACCESSORY

Calibration cable	IST-3W-CABLE
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